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U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

FEBRUARY, 1914

BY

ORRIS W. ROBERTS

SECTION DIRECTOR

MINNEAPOLIS, MINN.
WEATHER BUREAU OFFICE
MARCH 27, 1914.

Departure of the Mean Temperature from the Normal, February, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

VOL. XXIV. BISMARCK, N. D., FEBRUARY, 1914. NO. 2.

GENERAL SUMMARY.

Changeable and disagreeable weather prevailed generally throughout the entire State. The month opened with mild temperature and this condition continued for the first two days. From the 3d to the 14th, inclusive, extremely low temperature obtained, causing the mean for the month to be considerably below the normal. Mild temperature prevailed from the 15th to the 19th, followed by colder from the 20th to the 24th. With the exception of the last day, the remainder of the month was above the normal. The first decade was the coldest and the last decade was the warmest. The precipitation averaged somewhat below the normal, and was unevenly distributed geographically, but quite evenly throughout the month. Nearly normal sunshine and wind movement prevailed. In some parts of the State lack of snow on the ranges caused suffering to livestock.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 30.28 inches. The highest pressure was 30.85 inches at Moorhead (Minn.) on the 12th; the lowest was 29.10 inches at Devils Lake on the 28th.

TEMPERATURE.

The mean temperature for the State, obtained from 66 stations, was 1.0°, or 6.5° lower than the normal, and 7.5° lower than the mean for February, 1913. There was a deficiency in temperature throughout the entire State, every station showing a minus departure; the greatest deficiency, however, occurred in the northeast portion. The highest monthly mean temperature reported was 10.8° at Marmarth, Billings County; the lowest was -11.1° at Lakota, Nelson County. The highest temperature recorded was 57° at New England, Hettinger County, on the 28th; the lowest was -47° at Grafton, Walsh County, and Hannah, Cavalier County, on the 11th. The greatest daily range of temperature was 60° at Larimore, Grand Forks County, on the 24th. The greatest monthly range of temperature was 96° at Pembina, Pembina County; the least was 72° at Edgeley, LaMoure County; (incomplete records not used). The last decade was the warmest and the first decade the coldest, the highest temperature usually occurring on the 27th and the lowest on the 6th or 7th. Two cold waves occurred during the month, one on the 3d and one on the 22d.

HUMIDITY.

The average relative humidity, as determined from the records of four stations, was 81 per cent.

PRECIPITATION.

The average precipitation for the State, determined from 71 stations, was 0.34 inch, or 0.16 inch below the normal, and 0.24 inch more than the average for February, 1913. The greatest monthly amount reported was 1.80 inches at Haley, Bowman County. Four stations reported no precipitation whatever: Bowbells, Burke County; Carson, Morton County; Garrison, McLean County, and Orange, Adams County. The greatest amount of precipitation recorded in any twenty-four consecutive hours was 0.85 inch at Haley, Bowman County, on the 22d. The average snowfall was 3.8 inches, which was considerably below the normal. The greatest depth of snowfall was 18.0 inches at Haley, Bowman County. The only stations reporting no snow whatever were the four that had no precipitation. There was an average of three days with 0.01 inch or more of precipitation. The distribution of precipitation throughout the month was fairly uniform. Stormy periods were as follows: 1st to 5th, inclusive, 9th-10th, 13th to 16th, inclusive, and light scattered precipitation from the 18th to the 22d, inclusive, and during the last four days of the month.

WIND.

The prevailing direction of the wind was northwest, and the average hourly movement was 9.7 miles, as determined from the records of four stations. The greatest monthly wind movement was 7,612 miles at Devils Lake, or an average hourly movement of 11.3 miles; the least was 5,485 miles at Williston, or an average hourly movement of 8.2 miles. The maximum velocity for a period of five minutes, from the records of four stations equipped with anemometers, was 54 miles per hour from the northwest at Bismarck on the 28th.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine, the number of clear days numbering 12, partly cloudy days 8, and cloudy days 8.

MISCELLANEOUS.

The stage of water in the Missouri River remained unseasonably low. During the fore part of the month the thickness of ice was less than usual for the season of the year, but the continued low temperatures from the 2d to the 23d, inclusive, greatly increased its thickness and at the close of the month it was nearly the average.

COMPARATIVE DATA FOR FEBRUARY.

Year.	Temperature			Average Precipitation.
	Mean.	Highest.	Lowest.	
1892	10.0	62	−41	0.58
1893	− 0.3	52	−54	0.59
1894	8.0	55	−40	0.22
1895	5.9	65	−50	0.36
1896	14.8	64	−29	0.44
1897	6.1	52	−40	1.15
1898	13.3	65	−34	0.46
1899	0.4	68	−48	0.20
1900	1.3	46	−48	0.47
1901	7.1	60	−31	0.31
1902	12.1	51	−33	0.98
1903	3.1	46	−49	0.38
1904	−2.1	52	−42	0.54
1905	8.2	64	−46	0.30
1906	9.8	57	−38	0.13
1907	10.7	58	−49	0.27
1908	13.9	62	−34	0.99
1909	9.6	56	−34	0.34
1910	3.4	56	−50	0.50
1911	7.3	55	−38	0.73
1912	11.8	48	−33	0.15
1913	8.5	64	−44	0.10
1914	1.0	57	−47	0.34

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Climatological Data for February, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted	With .01 or more Precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	0.4	−7.4	40	25	−36	7	45	0.10	−0.28	0.10	1.0	1	13	8	7	nw.	C. E. Wood
Aplin	Oliver	.....	7	5.8	.....	49	27	−35	6	42	0.50	.....	0.20	4.5	5	11	9	8	nw.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	4.6	−1.9	46	27	−27	6	35	T.	−0.51	T.	T.	0	20	0	8	nw.	R. C. Miles
Beach	Golden Valley	2,576	8	9.8	.....	42	*16	−36	6	41	0.65	.....	0.42	.....	3	15	11	2	sw.	D. J. Steiner
Belfield	Stark	2,583	3	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.30	3.5	2	11	12	5	w.	E. W. Russell
Berthold Agency	McLean	2,082	20	4.8	−4.5	a53	27	a−39	7	a50	0.10	−0.57	0.03	1.9	6	14	6	8	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	5.3	−3.0	52	27	−32	7	40	0.36	−0.14	0.12	3.9	7	11	6	11	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	−6.1	−8.2	40	27	−36	7	43	0.15	−0.26	0.09	.....	5	11	6	11	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	2	.....	.....	.....	.....	[1]−35	4	.....	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	G. H. Phelps
Buford	Williams	1,944	35	6.0	−4.7	50	27	−39	6	37	1.00	+0.51	0.40	10.0	5	8	5	15	nw.	C. H. McCune
Cando	Towner	1,488	13	−5.4	−8.9	46	28	−40	*7	49	0.15	−0.11	0.15	2.0	1	24	2	2	n.	E. T. Judd
Carson	Morton	.....	2	7.0	.....	51	27	−34	*6	44	0.00	.....	0.00	0.0	0	9	10	9	w.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	.....	.....	.....	.....	H. P. Rice
Crosby	Divide	1,954	7	0.5	.....	42	27	−36	6	36	0.05	.....	0.05	0.5	1	19	8	1	nw.	H. C. Kaschau
Devils Lake	Ramsey	1,482	9	−3.6	−8.1	47	27	−33	6	40	0.16	−0.37	0.04	2.2	8	12	8	8	nw.	U. S. W. B.
Dickinson	Stark	2,543	22	8.0	−3.9	47	27	−39	6	46	0.43	−0.06	0.19	4.3	6	8	10	10	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	0.4	−7.6	46	27	−34	6	40	0.30	−0.35	0.20	3.0	2	10	9	9	nw.	C. J. DeVore
Dunseith	Rolette	.....	18	−6.4	−10.1	40	27	−40	6	55	0.52	+0.07	0.35	5.2	2	16	9	3	nw.	C. E. Goodsell
Eckman	Bottineau	.....	9	−0.4	.....	54	8	−39	7	54	0.05	.....	0.05	3.0	1	19	6	3	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	13	4.2	−6.6	45	*26	−27	6	41	0.20	−0.14	0.08	2.0	3	3	8	17	nw.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.15	5.0	5	9	8	11	se.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	0.19	.....	0.10	2.5	3	15	6	7	w.	M. F. Uggen
Fessenden	Wells	1,610	2	−1.0	.....	48	26	−32	*6	44	0.30	.....	0.10	3.5	3	13	10	5	nw.	G. T. Seymour
Forman	Sargent	1,249	22	3.9	−5.8	48	26	−31	7	44	0.23	−0.20	0.20	2.3	3	10	9	9	nw.	A. Maltby
Fullerton	Dickey	1,439	16	3.0	−6.3	45	26	−35	7	38	0.62	−0.11	0.18	5.3	6	11	6	11	nw.	F. O. Alin
Garrison	McLean	1,901	19	4.2	−4.3	51	27	−36	7	53	0.00	−0.64	0.00	0.0	0	11	9	8	nw.	G. L. Robinson
Grafton	Walsh	827	22	−8.0	−13.9	42	27	−47	11	59	0.83	+0.29	0.36	8.4	7	18	3	7	nw.	A. R. T. Wylie
Granville	McHenry	1,504	7	0.2	.....	48	27	−30	7	46	0.10	.....	0.10	1.0	1	17	4	7	nw.	W. A. Christianson
Haley	Bowman	2,260	6	8.3	.....	53	17	−38	8	45	1.80	.....	0.85	18.0	7	10	4	14	nw.	A. O. Lawrence
Hannah	Cavalier	1,568	9	−8.6	.....	36	27	−47	11	42	0.10	.....	0.10	1.0	1	17	9	2	nw.	J. Moffatt
Hansboro	Towner	1,597	6	−3.8	.....	43	27	−41	11	41	0.30	.....	0.30	3.0	1	13	13	2	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6	10.2	.....	47	16	−29	6	42	0.26	.....	0.20	7.0	4	8	10	10	sw.	W. R. Lanxon
Hillsboro	Traill	901	8	−2.4	.....	46	27	−37	11	46	0.55	.....	0.20	5.5	5	19	5	4	n.	F. E. Mayall
Howard	Williams	2,275	5	−0.1	.....	40	27	−39	6	43	0.43	.....	0.20	4.3	3	11	9	8	nw.	C. P. Ansbaugh
Jamestown	Stutsman	1,390	22	3.1	−5.1	46	27	−34	8	35	0.80	+0.20	0.30	8.0	4	10	6	12	nw.	T. Pettigrew
Lakota	Nelson	1,579	13	−11.1	−15.1	[2]20	16	[2]−40	11	[2]40	0.08	−0.57	0.04	1.8	3	.....	.....	.....	.....	C. R. Pettes
Lamoine	Kidder	.....	6	−0.1	.....	44	27	−38	6	37	T.	.....	T.	1.0	0	12	6	10	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	−10.0	.....	40	28	−43	11	45	T.	.....	T.	T.	0	.....	.....	.....	.....	R. T. Burke
Larimore	Grand Forks	1,134	19	−4.4	−10.1	51	27	−37	*11	60	0.49	+0.16	0.13	4.9	9	16	8	4	nw.	J. M. Freeman
Lisbon	Ransom	1,091	10	5.0	−4.3	42	26	−30	*7	42	0.57	−0.02	0.30	5.7	5	6	10	12	nw.	W. S. Adams
McHenry	Foster	1,509	4	−3.8	.....	44	27	−36	7	44	0.02	.....	0.01	T.	2	21	6	1	s.	P. E. Triden
McKinney	Renville	1,640	20	0.4	−4.3	44	27	−34	5	47	0.30	−0.01	0.20	3.0	2	8	18	2	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	1.4	.....	48	26	−34	7	41	0.20	.....	0.20	2.0	1	7	17	4	n.	M. Reinholt
Mandan	Morton	1,644	1	3.6	.....	a50	27	a−33	7	a53	0.05	.....	0.05	.....	1	.....	.....	.....	.....	M. Pfaender
Manfred	Wells	1,605	11	−0.2	−7.8	49	27	−35	7	40	0.18	−0.34	0.07	2.7	5	11	9	8	nw.	P. B. Anderson
Marmarth	Billings	.....	5	10.8	.....	45	16	a−31	6	a42	0.24	.....	0.08	10.7	5	5	10	13	w.	S. P. Grane
Marstonmoor	Stutsman	.....	5	[b]2.0	.....	[b]42	27	[2]−45	6	[b]41	0.10	.....	0.05	1.0	2	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	18	−1.4	−9.8	48	27	−39	11	49	T.	−0.40	T.	T.	0	15	7	6	.....	W. C. Gould
Melville	Kidder	1,590	16	2.2	−5.0	45	*26	−32	6	44	0.08	−0.27	0.08	0.8	1	8	9	11	nw.	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.35	6.2	3	7	11	10	n.	Hj. Edman
Minot	Ward	1,557	18	1.6	−6.7	42	26	−36	7	46	0.31	−0.19	0.20	3.1	5	19	1	8	w.	L. Bates
Minto	Walsh	820	21	−5.2	−11.1	45	27	−43	12	56	0.43	−0.13	0.22	.....	4	20	4	4	nw.	S. S. Marsh
Mott	Hettinger	2,424	7	7.1	.....	56	16	−35	6	44	0.98	.....	0.20	8.6	12	7	8	13	nw.	O. H. Opland
Napoleon	Logan	1,955	22	0.6	−6.2	46	27	−36	6	46	0.35	−0.10	0.20	4.0	4	7	5	16	nw.	C. J. Hoof
New England	Hettinger	2,400	20	10.6	−1.7	57	28	−35	6	54	0.30	−0.39	0.20	3.0	2	12	1	15	nw.	J. M. Connolly
New Rockford	Eddy	1,531	3	0.0	.....	48	26	−32	*6	34	0.45	.....	0.20	4.5	3	8	13	7	n.	J. V. N. Sundberg
New Salem	Morton	2,163	9	5.0	.....	50	28	−34	6	43	0.40	.....	0.20	4.0	3	8	10	10	nw.	J. Christiansen
Orange	Adams	2,586	5	7.8	.....	48	28	−32	6	49	0.00	.....	0.00	0.0	0	12	10	6	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	1.6	.....	48	27	−29	*7	39	T.	.....	T.	T.	0	8	18	2	nw.	J. J. Taylor
Park River	Walsh	998	10	−3.5	−9.5	45	27	−41	12	59	0.19	−0.26	0.11	1.9	3	21	6	1	nw.	G. M. Fargrave
Pembina	Pembina	789	40	−10.5	−12.3	50	26	−46	11	50	0.74	−0.01	0.30	5.0	5	14	10	4	w.	C. W. Shumaker
Power	Richland	1,020	22	0.5	−7.9	51	26	−32	*7	45	0.55	−0.02	0.20	5.5	4	16	4	8	nw.	J. A. Power
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	1.03	.....	0.35	10.2	7	10	11	7	nw.	R. E. Sheriff
Steele	Kidder	1,857	17	4.0	−2.8	44	27	−33	6	35	0.20	−0.27	0.20	2.0	1	14	13	1	s.	H. S. Wood
Towner	McHenry	1,482	12	−1.0	−6.5	47	27	−37	7	44	0.20	−0.28	0.20	2.0	1	13	11	4	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	2.7	.....	50	27	−35	6	35	0.55	.....	0.25	6.0	3	17	6	5	n.	E. G. Ramm
University	Grand Forks	830	22	−5.4	−12.7	46	27	−40	*11	44	0.39	−0.11	0.18	3.5	9	16	10	2	nw.	U. S. W. B.
Wahpeton	Richland	962	20	−0.4	−10.8	49	28	−31	7	31	0.35	−0.20	0.20	3.5	3	10	11	7	nw.	F. E. Smith
Walhalla	Pembina	966	7	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.80	8.0	2	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	7.4	−2.3	52	27	−34	6	47	0.16	−0.24	0.09	.....	3	16	3	9	n.	K. Klein
Westhope	Bottineau	1,508	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. A. Schwader
Williston	Williams	1,875	35	4.4	−3.5	51	27	−34	6	35	0.28	−0.19	0.11	2.5	6	6	3	19	n.	U. S. W. B.
Willow City	Bottineau	1,471	22	−5.1	−8.5	43	27	−45	7	46	0.75	+0.35	0.40	7.5	6	12	8	8	w.	M. A. Ostby
Zap	Mercer	.....	1	5.4	.....	50	27	−38	*6	44	0.20	.....	0.20	2.0	1	8	11	9	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	0.4	−6.6	48	27	−30	7	47	0.42	−0.31	0.09	4.2	8	16	8	4	n.	U. S. W. B.

All records are used in determining section means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for February, 1914.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red			T.	T.					T.	.10			T.	T.	T.	T.					T.											0.10
Aplin	Knife	T.	.20		T.	.05					.05			T.	.15	T.										T.	.05					0.50
Ashley	Missouri					T.								T.					T.													T.
Beach	Lit. Missouri	T.	.03	T.						T.					T.	.20			T.	T.		T.				T.	.42	T.	T.				0.65
Belfield	Heart					T.	T.	T.	T.	.05						.30				T.													0.35
Berthold Agency	Missouri	.03	.01			.01				.02					.02	T.										.01							0.10
Bismarck	Missouri	T.	.03		.02	.12				T.	.01	T.		T.	.07	T.	T.	T.		.01						.10	T.		T.				0.36
Bottineau ‖	Mouse		.02	.03	T.						.01					.09	T.		T.										T.			0.15
Bowbells ‖	Mouse																																0.00
Buford	Missouri	.10	.40								.20			T.	.20	.10										T.							1.00
Cando	Sheyenne		.15														T.												T.				0.15
Carson	Heart																																0.00
Colgate	Sheyenne																												T.				T.
Crosby	Mouse										.05				T.			T.															0.05
Devils Lake	Sheyenne	.01	.03		.04	T.				.01	.01			.03	.02	.01	T.	T.											T.				0.16
Dickinson	Heart	T.	.19			.07					T.	.06		.01	T.	T.	.01			T.	.03						.07						0.43
Donnybrook	Mouse	.20								T.				T.		.10																	0.30
Dunseith	Mouse	.17	.35														T.	T.															0.52
Eckman	Mouse	T.	T.													.05	T.																0.05
Edgeley	James							.08		.04						.08				T.													0.20
Energy	Missouri	T.	.02		.04	.02				T.	.22				T.	.15																	0.45
Epping	Missouri		.10						T.			.04			.05																		0.19
Fessenden ‖	James		.10	.08	.08				T.		T.			T.	T.	.04	T.	T.	T.														0.30
Forman	Sheyenne		.01			.20						.02																					0.23
Fullerton	James				.03	.12					.18			T.	.08	.06				T.						T.	.15						0.62
Garrison	Missouri																																0.00
Grafton ‖	Red		.16	.36	.04						.02				.07	.12		.06	T.														0.83
Granville	Mouse												T.			.10																	0.10
Haley	Grand		T.	T.	T.	.20							T.		.10	.10			.15	.20	.20	T.	.85										1.80
Hannah	Pembina		.10															T.															0.10
Hansboro	Red	.30																															0.30
Hettinger	Grand					T.						.02			.02	T.					.02	.20											0.26
Hillsboro	Red		T.	.20	T.	.10	.05				.10			T.		.10	T.												T.				0.55
Howard	Missouri	T.	.20							T.	.11	T.	T.		.12	T.																	0.43
Jamestown ‖	James		.20				T.				.30					.20	T.		.10														0.80
Lakota	Sheyenne		.04	.02														.02															0.08
Lamoine	Missouri		T.			T.						T.																					T.
Langdon	Pembina																											T.					T.
Larimore ‖	Red		.05	.13	.03						.08				.02	.08	.01	.03												.06			0.49
Lisbon ‖	Sheyenne		T.	.10	.10	T.	.02				.30			T.	T.	T.	.05																0.57
McHenry	James		.01												.01			T.															0.02
McKinney	Mouse	.20													.10		T.																0.30
McLeod	Sheyenne										.20																						0.20
Mandan	Missouri																										.05						0.05
Manfred	Sheyenne	.07		T.		T.					.02			.02	.03	T.	.04	T.											T.				0.18
Marmarth	Lit. Missouri	T.	T.	T.	T.	.07			.01	T.		T.		T.	T.	T.				T.	.05		T.	.08			.03		T.				0.24
Marstonmoor	James									T	.05			T.	T.	.05	T.	T.	T.										T.				0.10
Mayville	Red			T.		T.																							T.				T.
Melville	James		.08												T.		T.																0.08
Milnor	Red			T.		.10				T.	.35				.05			T.				T.											0.50
Minot ‖	Mouse	.20	T.								.03					.01	.06	.01	T.														0.31
Minto	Red		.22								.05					.13	.03																0.43
Mott	Cannon Ball	.06	.05			.12	.08				.03	.11		.06	.05	.08					.05	.20	.07					.02					0.98
Napoleon ‖	Missouri		.05												*	.10											.20						0.35
New England	Cannon Ball				.20																						.10						0.30
New Rockford	James	T.	.10	T.	T.	.20		.15		T.		T.			T.	T.	T.	T.	T.			T.											0.45
New Salem	Heart	T.	T.		T.	T.				T.		T.		T.	.20	.05				T.		T.						.15					0.40
Orange	Cannon Ball																																0.00
Oriska	Sheyenne		T.	T.	T.	T.		T.						T.				T.				T.											T.
Park River	Red		.11											.07		T.	.01																0.19
Pembina ‖	Red		.20	.30																							.10	.06	.08				0.74
Power	Sheyenne		.05		T.	.20					.20			T.								T.							.10				0.55
Ranger	Lit. Missouri	.03			.15										.02	.13				.05		.30				.35							1.03
Steele	Mouse	T.			T.	T.			.20		T.		T.		T.																		0.20
Towner	Missouri		.20								T.				T.																		0.20
Turtle Lake	Red		.20								.25				.10																		0.55
University	Red		.03	.14	.08	.04	.03		T.		.03		T.	.01				.02											.01				0.39
Wahpeton ‖	Pembina	.05									.20				T.	.10													T.				0.35
Walhalla	Missouri		*	.80																													0.80
Washburn	Mouse	.02								.05					.09																		0.16
Westhope	Missouri																																
Williston	Pembina	.01	.11	T.	T.	T.				.01	.01	T.			.10	T.			T.		T.	T.				.04							0.28
Willow City	Knife		.40	T.			T.				.05			.10	.05	T.	.10	.05															0.75
Zap	Missouri	T.	.20																														0.20
Moorhead, Minn	Red		T.	.01	.06	.09		.02			.08				.04		.04												.08				0.42

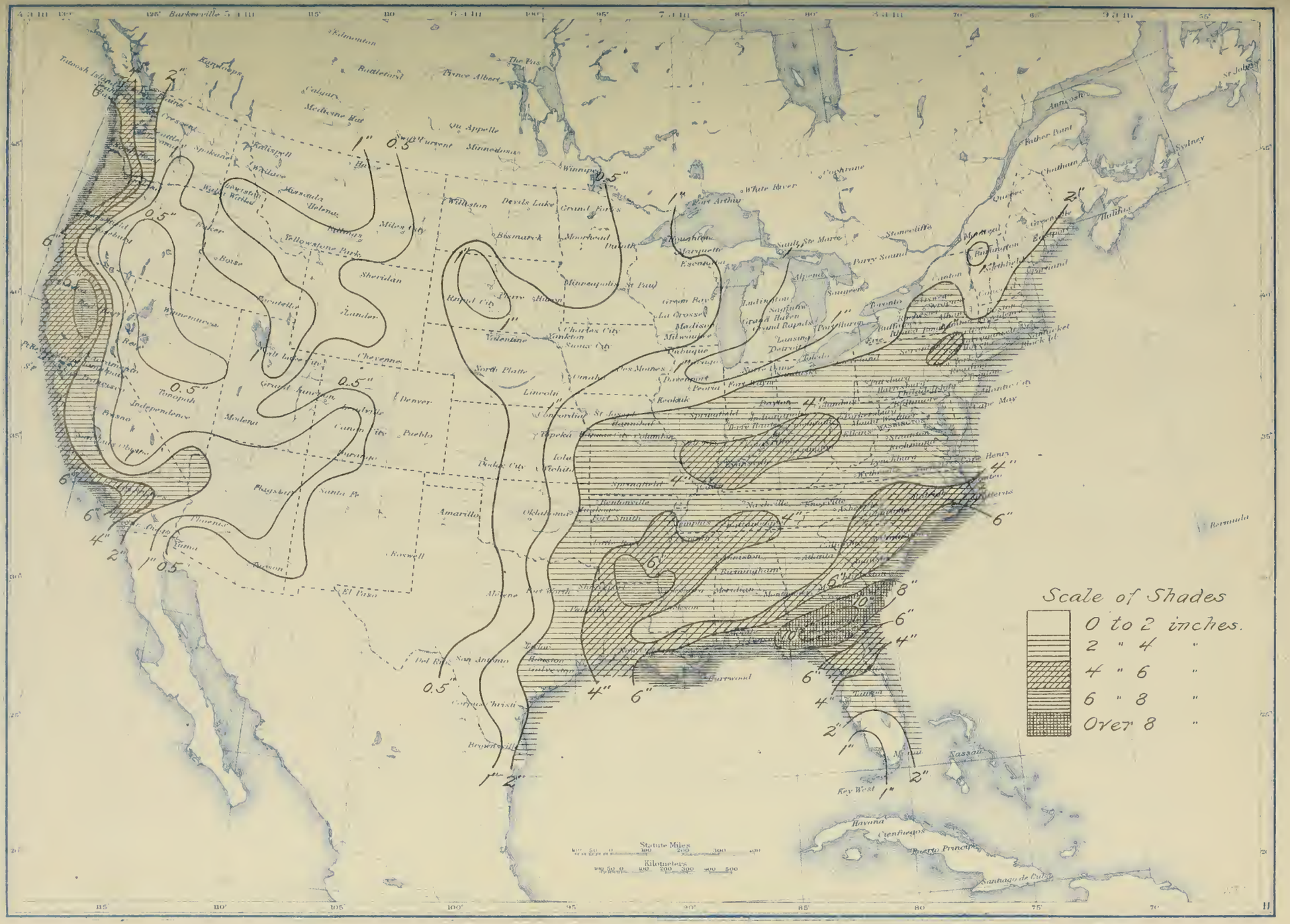
‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. * Precipitation included in the next following measurement.
T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	10	13	12	- 1	- 4	- 4	- 9	-10	- 3	5	10	8	16	15	16	22	20	13	10	19	26	10	20	34	40	25	20	16				12.5
	Minimum	5	- 5	-11	-20	-23	-24	-36	-22	-31	-24	-32	-48	-20	-30	-14	- 7	13	8	-20	-10	13	- 8	-24	11	16	25	- 9	- 4				-11.7
Aplin	Maximum	34	28	0	- 2	-12	-15	-13	- 4	5	8	- 2	3	15	8	27	43	38	26	16	26	22	0	20	44	42	45	49	44				18.0
	Minimum	2	- 5	-27	-15	-24	-35	-30	-27	-24	- 8	-10	20	-10	-16	6	10	12	8	- 2	- 7	3	-20	-18	2	24	20	27	7				- 6.5
Ashley	Maximum	28	5	11	3	- 9	- 8	- 8	4	0	-10	0	16	10	20	33	30	21	9	19	18	3	- 4	5	29	38	40	46	40				14.6
	Minimum	- 4	-10	-11	-10	-19	-27	-22	-12	-10	-15	-20	- 9	-10	- 2	- 2	10	6	0	- 5	- 2	-18	-20	- 5	- 5	15	28	21	40				- 5.3
Beach	Maximum	39	24	10	15	-12	- 2	-14	10	15	17	4	18	18	20	30	42	35	30	15	33	10	27	25	41	40	37	42	38				21.7
	Minimum	19	- 7	-27	-13	-25	-36	-25	-29	-20	- 1	- 5	- 6	12	0	14	15	15	7	0	- 8	- 8	- 9	- 8	10	25	18	20	17				- 2.0
Berthold Agency	Maximum	28	28	0	- 6	-15	-13	-12	2	5	3	——	0	12	11	27	44	38	25	18	32	24	- 1	23	45	39	45	53	50				[a]18.7
	Minimum	- 2	- 4	-26	-20	-25	-38	-39	-33	-24	-14	——	-12	-20	-17	5	- 1	11	3	- 8	- 9	- 3	-20	-18	- 5	20	20	27	5				[a]- 9.1
Bismarck	Maximum	32	24	2	- 2	-12	-10	-12	5	4	5	- 3	2	15	10	27	45	31	23	13	22	10	- 7	14	42	45	44	52	38				16.4
	Minimum	7	- 7	-16	-19	-20	-32	-32	-25	-14	- 7	-16	-19	-10	-10	7	5	13	6	0	- 7	- 7	-19	-17	0	18	26	26	6				- 5.8
Bottineau §§	Maximum	13	0	- 2	-12	-19	-18	-16	- 9	-10	- 5	-15	1	4	11	8	19	12	4	2	17	- 2	- 9	9	21	34	36	40	13				4.9
	Minimum	-14	- 2	-18	-21	-33	-33	-36	-33	-33	-35	-34	-27	-20	-18	-11	- 2	4	- 4	-27	-23	-11	-27	-25	-22	- 4	13	13	2				-17.1
Bowbells §§	Maximum																																
	Minimum																																
Carson	Maximum	40	32	4	10	-10	- 6	- 6	10	8	12	- 3	2	18	14	22	48	37	24	12	24	16	18	12	42	44	43	51	42				19.6
	Minimum	7	- 4	-18	-10	-20	-34	-34	-32	-21	- 4	-10	-21	-13	-12	5	8	18	10	3	-17	- 4	-15	-21	- 2	20	28	25	14				- 5.5
Crosby	Maximum	16	- 6	8	- 6	-19	-15	-15	- 5	- 1	- 3	- 1	8	10	9	22	34	30	23	5	17	14	- 4	22	32	33	33	42	35				11.4
	Minimum	- 6	-12	-25	-28	-28	-36	-28	-31	-26	-27	-14	-13	- 3	-13	1	9	9	2	-18	- 6	- 8	-25	-13	0	10	17	22	- 1				-10.4
Devils Lake	Maximum	13	12	- 9	-12	-14	-12	-15	- 5	- 6	- 9	-15	0	7	3	12	23	15	12	5	18	14	-11	7	30	33	37	47	36				7.7
	Minimum	-12	-14	-18	-30	-30	-33	-32	-29	-29	-27	-32	-30	-18	-21	- 5	2	- 2	-12	-19	-15	-22	-30	-23	0	20	18	27	- 4				-15.0
Dickinson	Maximum	38	31	8	6	-13	6	-12	5	11	16	- 1	7	17	17	30	41	34	30	14	29	24	0	17	41	41	37	47	45				19.8
	Minimum	7	- 4	-24	-15	-21	-39	-26	-21	-13	- 4	- 6	-21	- 3	- 4	10	15	19	9	1	-17	- 1	-14	-16	0	22	24	24	14				- 3.7
Donnybrook	Maximum	16	12	13	-12	-19	-11	-16	- 3	- 3	- 8	- 7	3	8	8	22	34	32	21	8	18	16	- 9	18	34	34	38	46	37				11.8
	Minimum	- 5	-10	-24	-27	-29	-34	-27	-29	-28	-26	-16	-14	- 8	-19	0	5	4	-11	-20	-10	- 9	-26	-22	3	21	19	27	3				-11.1
Dunseith	Maximum	10	10	- 6	-12	-15	-12	-16	-13	-12	- 7	-16	0	3	- 3	1	20	18	12	- 3	14	12	- 7	- 6	24	35	34	40	37				5.5
	Minimum	-15	-15	-17	-24	-34	-40	-38	-36	-27	-30	-35	-30	-13	-19	- 4	0	- 4	-13	-24	-24	-16	-30	-27	-10	10	12	12	18				-18.2
Edgeley	Maximum	30	24	2	- 4	- 7	- 9	- 9	3	3	0	-10	5	17	12	22	37	35	22	11	21	17	- 1	11	35	41	45	45	42				15.5
	Minimum	- 6	1	-14	-14	-22	-27	-23	-24	-16	-12	-18	-23	- 9	-15	- 1	- 1	11	6	- 5	-10	- 1	-21	-23	- 5	16	28	24	7				- 7.1
Fessenden §§	Maximum	21	4	4	- 9	-15	- 9	-14	1	1	- 5	-12	3	9	19	13	35	18	10	13	19	- 1	- 6	8	33	36	48	44	16				10.1
	Minimum	- 8	4	19	49	-27	-32	-32	-30	-26	-25	-20	-19	-12	-17	7	- 4	5	- 1	-17	-11	-12	-28	-26	-11	8	21	16	8				-12.2
Forman	Maximum	26	23	10	0	- 6	- 6	- 9	1	5	2	- 6	6	17	13	12	31	30	20	17	22	18	1	15	29	36	48	46	38				15.7
	Minimum	- 6	9	-12	-12	-20	-24	31	-30	-20	-13	-19	-19	- 9	-16	- 5	- 5	12	7	-13	- 8	- 2	-22	-29	- 6	15	27	22	8				- 7.9
Fullerton	Maximum	32	20	1	1	- 8	- 9	- 9	1	2	- 2	-12	8	15	4	23	36	35	21	12	19	9	- 3	8	25	37	45	44	39				14.0
	Minimum	- 6	- 6	- 9	-12	-20	-25	-35	-26	-16	-12	-18	-22	-11	-17	- 4	4	12	2	- 3	- 7	- 3	-20	-23	-10	9	28	22	2				- 8.1
Garrison	Maximum	28	29	29	0	- 5	-15	-12	- 2	5	0	- 5	3	10	4	22	40	33	20	15	25	25	7	12	38	36	41	51	45				17.5
	Minimum	0	- 5	-24	-18	-26	-34	36	-28	-25	-16	-14	-19	-10	-19	2	4	9	2	-12	- 7	- 5	-24	-21	0	20	21	25	5				4.0
Grafton §§	Maximum	13	11	- 4	-12	-10	- 5	- 9	- 5	-10	- 8	-15	4	9	6	6	14	9	12	5	17	- 5	-11	6	29	39	39	42	12				- 9.1
	Minimum	-26	-12	17	-19	-29	-36	37	-35	-31	-28	-47	-46	-33	-26	-23	-10	- 9	- 9	-31	-29	-16	-34	-35	-30	4	8	12	- 4				6.4
Granville	Maximum	26	20	5	- 8	-14	-11	-15	0	- 5	- 5	6	4	10	15	20	33	23	18	20	25	15	-10	10	21	34	41	48	38				-22.4
	Minimum	- 7	-26	-27	-27	-28	-25	-30	-27	-27	-21	-19	-12	-15	-13	-11	8	- 4	- 2	- 5	-15	-18	-27	-25	- 1	20	20	28	5				12.2
Hannah	Maximum	12	5	1	17	-20	-18	-20	-15	-16	-22	-25	- 1	0	4	10	23	15	6	3	18	11	- 9	2	26	34	35	36	35				-11.8
	Minimum	- 5	11	-20	-34	-40	-38	-41	-39	-45	-32	-47	-43	-19	-33	- 8	- 6	- 9	-16	-31	-19	-24	-39	-32	- 4	- 9	11	21	- 5				17.5
Hansboro	Maximum	10	10	-10	-15	-19	-10	-18	- 6	-12	-12	-17	- 2	5	10	10	20	17	10	7	16	15	-10	7	28	33	40	43	40				4.0
	Minimum	-12	-11	-19	-28	-31	-27	-36	-35	-32	-25	-41	-34	-10	-22	- 8	0	- 6	- 8	-14	-14	-16	-32	-25	3	26	28	30	- 1				6.8
Hettinger	Maximum	35	35	12	6	7	- 4	-10	7	10	15	6	6	21	11	31	47	42	38	34	30	23	22	10	38	41	35	40	38				-14.3
	Minimum	-26	- 7	-13	- 4	-17	-29	-24	-25	-15	0	- 2	-15	- 1	1	3	13	19	8	6	-21	-15	-11	-19	1	11	27	18	22				22.7
Hillsboro	Maximum	15	17	7	7	-13	- 9	-11	1	0	- 7	-15	1	10	3	8	18	18	8	6	18	11	-10	6	25	37	44	46	43				- 2.2
	Minimum	-23	7	-13	-23	-26	-27	-34	-31	-26	-21	-37	-36	- 6	-22	-10	- 4	0	- 4	-24	-17	-10	-31	-31	- 7	13	21	24	- 3				9.6
Howard	Maximum	29	12	-10	-16	-21	-22	-22	-10	- 3	- 3	- 5	- 5	3	7	24	34	25	20	7	17	27	-10	23	32	33	31	40	30				-14.3
	Minimum	4	-14	-29	-23	-29	-39	-29	-31	-25	-15	-15	-12	- 7	-14	- 5	10	13	-10	- 9	- 7	-10	-28	-20	3	20	20	27	- 5				9.8
Jamestown §§	Maximum	22	15	- 2	6	-13	-10	-12	0	0	- 5	-10	- 3	15	20	11	33	20	15	14	21	8	- 8	13	34	40	43	46	30				-10.0
	Minimum	- 4	- 2	-15	-16	-24	-26	-30	-34	-26	-10	-17	-15	-15	-10	- 9	9	9	14	- 5	- 3	- 8	-18	- 4	5	24	30	20					12.4
Lakota	Maximum	10	11	- 5	- 9	-15	-15	-15	- 5	- 8	-12	-17	- 2	——	——	10	20	18	12	- 4	18	12	-10	10	——	——	——	——	——				[c]0.2
	Minimum	-17	-10	-18	-24	-30	-38	-35	-31	-32	-28	-40	-33	——	——	- 2	2	- 2	-16	-25	-20	-11	-30	-30	——	——	——	——	——				[c]-24.2
Lamoine	Maximum	28	18	- 4	- 4	-17	-15	-15	- 3	0	- 2	- 6	0	8	0	20	32	28	20	21	15	13	- 6	2	26	35	38	44	40				11.3
	Minimum	- 6	- 6	-23	-19	-27	-38	-32	-30	-28	-13	-23	-19	-11	-19	- 3	3	6	- 3	-16	12	- 6	-26	-26	- 5	15	20	19	5				-11.5
Langdon	Maximum	1	7	3	13	15	-22	-13	-19	-10	-12	-14	-17	1	4	5	3	15	8	3	0	15	- 7	-11	6	22	33	35	40				1.7
	Minimum	-19	-10	-20	-22	-35	-31	-38	-35	-36	-20	-43	-38	-31	-28	-28	- 8	-15	-11	-28	-27	-17	-34	-43	-26	- 3	10	10	5				-21.8
Larimore §§	Maximum	13	10	- 7	-13	-11	- 7	-13	- 1	- 5	-11	-10	3	8	9	7	20	15	8	15	21	- 4	- 3	14	33	35	42	51	22				8.7
	Minimum	-21	-21	-15	-18	-28	-32	-32	-31	-29	-23	-37	-37	-32	-24	-19	- 5	- 4	- 4	-19	-18	- 3	-31	-29	-27	2	19	22	4				-17.6
Lisbon §§	Maximum	21	18	20	20	15	14	12	10	10	20	11	6	20	15	15	27	27	22	19	16	15	8	9	35	36	42	38	36				19.9
	Minimum	-12	-15	-14	-22	-20	-25	-30	-30	-20	-10	-21	-18	-12	-15	-16	- 4	5	40	-12	- 6	-15	-24	-25	0	12	12	15	6				-10.0
McHenry	Maximum	15	10	- 9	-10	- 8	-13	- 8	4	- 5	- 8	-12	0	0	5	5	27	17	8	10	10	5	- 5	8	30	34	40	44	3				7.4
	Minimum	-14	-17	-18	-23	-27	-34	-36	-31	-30	-25	-29	-26	-11	-19	- 3	- 1	3	- 6	-20	-10	-12	-30	-27	- 5	16	18	0	- 5				-15.1
McKinney	Maximum	- 5	- 6	- 3	-10	-21	-10	-12	0	0	- 4	- 9	4	11	10	22	35	32	22	14	25	19	- 8	26	41	39	39	44	40				12.0
	Minimum	- 6	-13	-25	-23	-34	-31	-28	-28	-28	-27	-24	-13	- 5	-19	0	0	5	0	-26	-15	- 8	-29	-21	4	32	16	30	4				-11.4
Manfred	Maximum	23	- 5	- 5	- 5	-15	10	-13	0	- 2	- 2	-10	5	10	5	20	33	18	10	12	19	18	3	9	33	38	31	40	40				10.8
	Minimum	- 7	-20	-19	-20	-26	-31	-35	-30	-28	-13	-18	-16	- 9	-19	0	- 2	6	0	-16	10	- 5	-27	-29	0	9	19	21	0				-11.3
Marmarth	Maximum	38	22	22	13	-12	- 4	7	13	20	17	4	11	25	22	32	45	36	26	14	30	21	3	14	36	40	56	42	43				22.0
	Minimum	11	- 4	-16	-12	-20	-31	-19	-29	- 3	2	- 4	-16	4	4	18	18	18	14	3	- 9	3	- 9	-11	8	—	28	17	24				[a]- 0.4
Minot §§	Maximum	28	1	0	0	7	-13	0	1	- 2	- 5	9	10	22	15	38	23	18	12	26	5	4	20	38	37	42	40	24					13.5
	Minimum	- 4	0	-22	-21	-26	-30	-36	-26	-22	-24	-24	-12	- 5	-16	- 6	0	8	5	-21	-14	- 5	-24	-18	8	8	19	24	8				-10.4
Mott	Maximum	23	8	10	8	3	- 5	- 4	5	15	17	8	5	20	22	29	56	36	26	20	11	- 2	7	23	40	41	47	42	50				20.0
	Minimum	- 4	-12	-19	-11	-21	-35	-29	-31	-12	- 4	- 9	-20	-10	- 2	9	12	18	8	- 6	-15	-21	-23	-15	0	20	28	23	20				- 5.8
Napoleon §§	Maximum	31	20	9	- 4	-14	-15	-14	0	- 8	- 3	- 7	3	14	23	14	14	20	11	12	17	5	- 5	6	31	43	44	46	25				11.7
	Minimum	1	9	-19	-15	-25	-36	-28	-34	-21	- 7	-15	-23	-22	-18	-11	- 7	- 3	4	-12	-13	- 7	-23	-28	- 5	- 3	17	19	24				-10.8
New England	Maximum	40	15	32	16	- 6	- 2	5	6	15	6	5	7	17	20	50	55	40	30	14	25	27	10	11	40	42	45	48	57				23.9
	Minimum	15	- 2	-22	-11	-21	-35	-19	-32	- 5	1	- 6	-20	- 5	- 1	11	14	17	9	5	22	1	-11	-17	- 3	19	27	25	19				- 2.7
New Rockford	Maximum	19	16	- 4	- 9	-14	-12	-15	- 1	- 2	- 3	10	- 1	10	4	18	29	26	15	17	19	15	- 5	7	30	36	48	45	36				11.2
	Minimum	- 9	- 6	-16	-17	-28	-32	-32	-28	-27	-22	-24	-22	- 8	-14	- 3	1	5	- 5	-17	-11	- 5	-30	-24	- 4	18	20	22	6				-11.1
New Salem	Maximum	33	29	3	0	-12	6	-13	5	5	8	- 5	13	10	8	28	45	40	26	14	21	17	5	15	40	43	44	49	50				17.4
	Minimum	3	- 3	-20	-15	-24	-34	-29	-27	-15	-11	-11	-26	-13	-13	5	8	12	8	- 1	-11	- 6	-20	-19	0	2	21	24	7				- 7.3
Orange	Maximum	41	32	12	0	1	- 9	- 3	0	10	5	5	0	20	14	31	47	35	27	15	20	22	- 2	1	25	44	37	42	48				18.6
	Minimum	6	- 5	16	-16	-21	-32	-20	-20	-11	-17	-11	- 7	- 2	9	11	18	21	11	2	3	- 3	-18	-24	-24	15	22	26	21				- 2.9
Oriska	Maximum	18	18	9	12	-12	- 8	11	3	- 3	-12	-11	10	13	10	13	24	24	18	12	18	14	3	-14	30	38	43	18	44				12.6
	Minimum	10	3	-13	-18	-23	-28	-29	-28	-22	-29	-28	- 8	- 8	- 7	- 3	- 4	- 4	0	-15	-13	10	-27	-28	- 2	14	23	28	5				- 9.1
Park River	Maximum	8	12	0	- 9	-11	- 9	-15	- 6	-10	-10	-16	- 2	8	4	8	15	15	10	5	19	17	-13	14	30	39	40	45	41				8.2
	Minimum	-19	0	-16	-21	-30	-27	-31	-31	-25	-24	-39	41	- 5	-22	- 5	- 4	- 5	- 9	-20	-15	-17	-31	-31	0	20	20	19	18				-15.2
Pembina §§	Maximum	22	18	-10	-18	- 8	-18	-20	10	-12	-18	-20	- 8	-12	- 2	- 8	8	10	0	- 8	-18	-20	-10	0	20	40	50	42	30				0.7
	Minimum	-20	-10	-20	-20	-40	-25	-42	-38	-43	32	-46	-40	-25	-30	-18	- 8	-12	- 8	-25	-34	-20	-44	-30	- 7	10	0	30	-10				-21.7
Power	Maximum	23	21	2	- 5	- 8	- 6	- 6	6	- 5	- 2	-12	8	18	12	10	20	21	9	10	21	3	- 9	14	30	39	51	46	23				11.9
	Minimum	14	-11	-11	-18	-20	-24	-32	-32	-25	-15	-27	-25	- 9	-17	- 8	- 4	9	4	-19	- 9	9	-24	-31	- 6	18	30	23	2				-10.9
Towner	Maximum	22	19	- 7	-12	-16	- 1	-16	- 3	- 5	- 7	- 7	3	7	3	13	29	25	13	6	21	17	- 8	18	33	32	40	47	43				11.0
	Minimum	-10	- 7	-19	-20	-30	-36	-37	-32	-29	-19	-27	-16	- 8	-18	0	- 3	- 8	2	-27	-17	- 8	-29	-25	- 1	17	17	26	- 1				-13.0
Turtle Lake	Maximum	29	28	- 4	- 6	- 6	-14	-14	- 1	1	0	- 8	1	9	3	22	36	36	21	10	23	20	- 4	14	35	38	42	50	45				14.5
	Minimum	- 3	- 5	-23	-18	-25	-35	-32	-22	-27	-12	-14	-19	- 9	-19	- 1	1	8	7	-15	- 9	- 5	-25	-23	0	19	22	24	6				- 9.1
University	Maximum	16	16	- 7	-10	-13	-12	-12	- 2	-11	- 9	-17	0	9	3	6	16	14	7	5	17	15	-13	3	25	35	41	46	37				7.4
	Minimum	-25	- 7	-16	-26	-27	-31	-36	-32	-32	-32	-40	-40	19	-24	- 7	4	- 3	-17	-24	-22	-26	-34	-32	- 4	12	17	27	- 7				-18.1
Wahpeton §§	Maximum	1	13	21	- 4	- 2	-12	-14	-12	-10	- 5	1	9	4	10	3	6	16	21	6	12	20	3	-12	10	32	40	45	49				8.3
	Minimum	-12	1	-10	-16	-23	-18	-31	-26	-27	-14	-29	-27	- 9	-19	- 5	- 7	4	6	-17	- 2	2	-21	-27	- 5	10	22	21	22				- 9.2
Washburn	Maximum	38	27	24	- 5	- 8	-10	14	4	12	14	2	4	6	5	25	40	35	23	14	25	20	16	16	42	40	45	52	45				20.2
	Minimum	5	-20	-16	-18	-22	-34	-20	-22	-20	-10	-12	-16	-10	- 4	4	6	11	6	- 5	- 5	- 2	-21	-17	2	28	24	28	8				- 5.1
Westhope	Maximum																																
	Minimum																																
Williston	Maximum	26	9	- 7	- 8	-16	- 9	-13	- 4	5	5	0	10	7	18	27	40	28	14	15	28	13	1	27	40	36	39	51	35				14.9
	Minimum	8	10	-25	-21	-29	-34	-26	-29	-16	-16	-10	-12	-11	-11	5	8	14	5	- 7	- 3	- 5	-15	- 4	5	21	19	28	6				- 6.2
Willow City	Maximum	16	14	5	-13	-17	-15	-15	- 8	- 9	-10	-10	2	5	2	11	26	12	13	- 1	19	9	- 7	10	34	30	36	43	22				6.9
	Minimum	-15	- 7	-19	-21	-36	-10	-45	-38	-37	-21	-35	-29	-11	-23	- 3	- 4	3	- 5	-34	-27	- 8	-31	-27	- 8	12	10	22	- 2				-17.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Total Precipitation, February, 1914.



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U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MARCH, 1914

BY

ORRIS W. ROBERTS

SECTION DIRECTOR

MINNEAPOLIS, MINN.
WEATHER BUREAU OFFICE
APRIL 25, 1914.

Departure of the Mean Temperature from the Normal, March, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

VOL. XXIV. BISMARCK, N. D., MARCH, 1914. No. 3.

GENERAL SUMMARY.

The weather during March was similar in many respects to that of the month preceding, being changeable and disagreeable. The month opened with mild temperature, and this condition continued until the 17th, at which time a change to colder occurred, and temperatures below the normal prevailed until the close of the month. The second decade was the warmest, and the last decade the coldest. The excess of temperature during the first seventeen days was considerably greater than the deficiency during the last fourteen days, so that the mean temperature for the month was considerably above the normal. The precipitation was near the normal, and was quite evenly distributed, both geographically and throughout the month. The sunshine and wind movement were also nearly the normal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 30.16 inches. The highest pressure was 30.82 inches at Bismarck on the 21st; the lowest was 29.54 inches at Devils Lake on the 15th.

TEMPERATURE.

The mean temperature for the State, obtained from 59 stations, was 25.5°, or 3.2° above the normal, and 8.3° higher than the mean for March, 1913. With but three exceptions, all stations showed plus departures, the greatest excess occurring in the central portion, and the greatest deficiency in the Red River Valley. The highest monthly mean temperature reported was 30.5° at New England, Hettinger County; the lowest was 13.3° at Pembina, Pembina County. The highest temperature recorded was 76° at Minot, Ward County, on the 13th, and at Carson, Morton County, on the 15th; the lowest was −20° at Pembina, Pembina County, on the 10th, and at Aplin, Oliver County, Berthold Agency, McLean County, and Zap, Mercer County, on the 26th. The greatest daily range of temperature was 55° at Napoleon, Logan County, on the 13th. The greatest monthly range of temperature was 88° at Carson, Morton County; the least was 56° at Bottineau, Bottineau County. The distribution of temperature was quite uniform, both geographically and throughout the month. The highest temperature was usually recorded on either the 13th or 14th, and the lowest on the 1st or 26th.

HUMIDITY.

The average relative humidity, as determined from the reports of four stations, was 78 per cent, being greatest in the eastern, and least in the western, portion of the state.

PRECIPITATION.

The average precipitation for the State was 0.90 inch, or 0.03 inch above the normal, and 0.09 inch more than the average for March, 1913. The greatest monthly amount reported was 1.82 inches at Turtle Lake, McLean County; the least was 0.24 inch at Park River, Walsh County. The greatest amount of precipitation recorded in any twenty-four consecutive hours was 1.45 inches at Wahpeton, Richland County, on the 25th. The average snowfall was 9.2 inches, and the distribution of snowfall was quite uniform. The greatest depth of snowfall was 17.5 inches at Willow City, Bottineau County; the least was 1.5 inches at Park River, Walsh County. The average number of days with 0.01 inch or more of precipitation was five. Stormy periods were as follows: 2d to 10th, inclusive, 16th to 20th, inclusive, 24th to 28th, inclusive, and the last day of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly movement, determined from the records of four stations, was 10.6 miles. The greatest monthly wind movement was 9,076 miles at Devils Lake, or an average of 12.2 miles per hour; the least was 7,007 miles at Moorhead (Minn.) or an average of 9.4 miles per hour. The maximum velocity of the wind for a period of five minutes, was 47 miles per hour from the northwest at Bismarck on the 15th, (only the reports of those stations equipped with anemometers being used).

SUNSHINE AND CLOUDINESS.

There was a slight deficiency in sunshine; the number of clear days was 10, partly cloudy days 9, and cloudy days 12.

MISCELLANEOUS.

The stage of water in the rivers of the State was low, considering the season of the year. The ice in the Missouri River broke up in places during the period, 10th to 20th, and moving down stream formed a gorge at a point 35 miles above Bismarck. This gorge caused the water to leave the banks of the river and cover the bottoms to a depth of between six and seven feet, and this condition prevailed for eight days. On the 28th small crevasses formed and allowed the water to gradually subside. The thickness of ice at the close of the month averaged 24 inches, and was solid at most places within the State.

COMPARATIVE DATA FOR MARCH.

Year.	Temperature			Average Precipitation.
	Mean.	Highest.	Lowest.	
1892	24.2	66	−35	0.83
1893	13.9	68	−35	0.99
1894	24.8	69	−22	1.45
1895	23.2	75	−35	0.16
1896	15.7	70	−35	1.18
1897	11.9	58	−48	1.27
1898	21.3	79	−24	0.79
1899	7.5	72	−30	1.00
1900	20.3	77	−24	1.01
1901	25.3	85	−32	0.86
1902	27.4	65	−25	2.73
1903	22.1	80	−24	0.55
1904	18.2	64	−26	1.33
1905	32.5	81	−25	0.87
1906	18.5	67	−34	0.38
1907	23.1	83	−20	0.70
1908	21.1	68	−31	1.16
1909	24.0	61	−24	0.32
1910	41.3	90	− 7	0.97
1911	30.6	78	−18	0.24
1912	15.4	65	−28	0.33
1913	17.2	70	−31	0.81
1914	25.5	76	−20	0.90

Climatological Data for March, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted	With .01 or more Precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	28.6	+5.1	62	14	− 4	26	44	0.15	−0.01	0.55	6.5	2	13	9	9	nw.	C. E. Wood
Aplin	Oliver	.....	7	26.2	.....	62	14	a−20	26	a48	0.87	.....	0.35	.....	5	.....	.....	.....	w.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	29.3	+7.2	65	13	− 1	* 1	35	1.20	−0.16	.....	.....	.....	14	0	17	se.	R. C. Miles
Beach	Golden Valley	2,576	8	26.0	.....	64	14	−12	26	44	0.37	.....	0.15	5.0	5	19	9	3	nw.	D. J. Steiner
Belfield	Stark	2,583	3	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.30	7.2	3	14	5	15	s.	E. W. Russell
Berthold Agency	McLean	2,082	20	27.4	+2.4	67	13	−20	26	46	0.42	−0.54	0.15	6.3	6	9	11	11	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	27.6	+5.4	71	13	−10	27	41	1.23	+0.19	0.75	15.6	8	11	7	13	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	21.8	+4.1	46	14	−10	1	41	0.32	−0.64	0.11	.....	6	8	10	13	se..	H. F. Steinmeier
Bowbells	Burke	1,958	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Phelps
Buford	Williams	1,944	35	28.8	+5.2	66	14	−17	26	43	1.10	+0.55	0.40	11.0	4	2	8	21	nw.	C. H. McCune
Cando	Towner	1,488	13	b23.6	+1.8	c55	15	d−11	*11	d46	0.47	−0.29	0.25	.....	4	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	2	27.8	.....	76	15	−12	26	45	0.60	.....	0.40	6.0	2	12	9	10	nw.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	0.89	.....	0.48	8.9	4	5	6	20	ne.	H. P. Rice
Crosby	Divide	1,954	7	25.0	.....	56	14	−15	26	32	0.41	.....	0.16	4.5	4	18	7	6	nw.	H. C. Kaschau
Devils Lake	Ramsey	1,482	10	23.0	+4.5	53	14	− 9	26	39	0.76	−0.25	0.39	5.3	7	4	12	15	nw.	U. S. W. B.
Dickinson	Stark	2,543	22	26.4	+1.7	65	13	−14	26	48	1.27	+0.37	0.40	12.5	5	7	9	15	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	25.0	+1.7	a59	14	a−14	26	a44	0.84	−0.04	0.40	8.5	4	6	9	16	sw.	C. J. DeVore
Dunseith	Rolette	.....	18	20.2	+1.4	b48	14	b−15	1	c40	0.57	−0.41	0.22	5.7	4	6	8	17	nw.	C. E. Goodsell
Eckman	Bottineau	.....	9	24.4	.....	60	14	−15	*26	50	0.50	.....	0.26	10.0	4	7	12	12	n.	J. Nussbaum
Edgeley	LaMoure	1,468	13	26.9	−0.3	65	13	− 7	* 1	42	0.57	−0.45	0.50	5.0	3	3	6	22	nw.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.35	.....	4	4	9	18	sw.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.15	8.0	4	18	6	7	e.	M. E. Uggen
Fessenden	Wells	1,610	2	24.7	.....	64	13	−15	26	51	1.10	.....	0.38	11.0	5	12	9	10	nw.	G. T. Seymour
Forman	Sargent	1,249	22	28.5	+2.9	a64	13	a−15	11	a50	1.66	+0.74	1.00	16.1	4	.....	.....	.....	nw.	A. Maltby
Fullerton	Dickey	1,439	16	27.3	+1.7	64	13	− 7	11	41	1.27	−0.04	0.32	9.9	8	12	8	11	nw.	F. O. Alin
Garrison	McLean	1,901	19	25.4	+3.6	64	14	−16	26	54	1.00	−0.03	0.30	10.0	4	10	10	11	nw.	G. L. Robinson
Grafton	Walsh	827	22	23.0	+2.8	55	13	− 3	21	36	0.59	−0.15	0.37	7.4	5	14	6	11	nw.	A. R. T. Wylie
Granville	McHenry	1,504	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson
Haley	Bowman	2,260	6	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.40	9.0	2	.....	.....	.....	.....	A. O. Lawrence
Hannah	Cavalier	1,568	9	19.4	.....	45	13	−19	1	40	0.60	.....	0.30	6.0	4	11	7	13	nw.	J. Moffatt
Hansboro	Towner	1,597	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Blackorby
Hettinger	Adams	2,253	6	27.0	.....	65	*13	−10	26	37	0.48	.....	0.25	.....	2	1	19	11	nw.	W. R. Lanxon
Hillsboro	Traill	901	8	26.3	.....	57	13	− 9	1	34	1.07	.....	0.60	7.0	5	13	10	8	n.	F. E. Mayall
Howard	Williams	2,275	5	23.6	.....	57	14	−19	26	38	0.90	.....	0.50	8.8	3	7	9	15	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	26.3	+3.5	59	13	−12	11	46	1.37	+0.36	0.60	13.7	7	11	1	19	n.	T. Pettigrew
Lakota	Nelson	1,579	13	23.5	+3.6	52	13	−10	11	41	0.37	−0.24	0.08	7.8	7	3	19	9	ne.	C. R. Pettes
Lamoine	Kidder	.....	6	23.4	.....	59	13	−17	26	48	0.90	.....	0.20	9.0	7	7	10	14	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	20.9	.....	43	*13	−19	1	47	0.40	.....	0.28	3.0	4	24	3	4	n.	R. T. Burke
Larimore	Grand Forks	1,134	19	23.6	+2.4	59	16	−10	1	37	0.39	−0.44	0.21	3.9	6	16	6	9	nw.	J. M. Freeman
Lisbon	Ransom	1,091	10	30.1	+2.4	60	13	−14	11	46	0.42	−0.26	0.40	4.2	2	7	8	16	nw.	W. S. Adams
McHenry	Foster	1,509	4	24.2	.....	55	13	−15	11	48	1.13	.....	0.40	10.5	7	17	8	16	nw.	P. E. Truden
McKinney	Renville	1,640	20	25.4	+6.6	61	14	−13	26	52	0.60	−0.24	0.30	6.0	4	5	13	13	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	27.0	.....	62	13	−12	11	41	0.30	.....	0.20	3.0	3	9	13	9	nw.	M. Reinholt
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pfaender
Manfred	Wells	1,605	11	25.6	+1.4	60	14	−15	*11	53	1.17	+0.44	0.30	11.7	7	5	13	13	nw.	P. B. Anderson
Marmarth	Billings	.....	5	28.0	.....	63	13	−10	26	42	0.45	.....	0.15	13.5	6	6	11	14	nw.	S. P. Grane
Marstonmoor	Stutsman	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	18	27.0	+3.8	58	*13	− 9	1	32	0.70	+0.02	0.40	4.0	5	13	9	9	.....	W. C. Gould
Melville	Kidder	1,590	16	c24.2	+1.4	c58	*13	c−17	26	c44	1.35	+0.73	0.45	11.5	6	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	0.94	.....	0.35	11.0	4	13	8	10	n.	Hj. Edman
Minot	Ward	1,557	18	26.8	+5.6	76	13	−11	26	55	0.80	+0.05	0.20	8.0	7	16	0	15	w.	L. Bates
Minto	Walsh	820	21	26.3	+5.2	56	13	− 1	21	31	0.45	−0.45	.....	.....	3	12	7	12	nw.	S. S. Marsh
Mott	Hettinger	2,424	7	27.2	.....	68	13	−14	26	47	1.45	.....	0.52	12.0	4	7	10	14	nw.	O. H. Opland
Napoleon	Logan	1,955	22	23.8	+2.4	67	13	−15	26	55	1.20	+0.30	0.50	12.0	5	8	6	14	sw.	C. J. Iloof
New England	Hettinger	2,400	20	30.5	+6.0	67	12	−13	21	49	1.47	+0.65	0.80	14.7	5	.....	.....	.....	nw.	J. M. Connolly
New Rockford	Eddy	1,531	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. V. N. Sundberg
New Salem	Morton	2,163	9	26.4	.....	68	13	−15	26	45	1.55	.....	0.80	15.5	6	5	10	16	nw.	J. Christiansen
Orange	Adams	2,586	5	26.1	.....	67	13	−10	26	37	1.40	.....	1.20	14.0	2	10	12	8	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	27.0	.....	62	13	−10	27	42	1.50	.....	.....	15.0	5	6	17	8	nw.	J. J. Taylor
Park River	Walsh	998	10	23.0	.....	55	13	−14	2	48	0.24	.....	0.11	1.5	4	9	15	7	nw.	G. M. Hargrave
Pembina	Pembina	789	40	13.3	−2.8	40	30	−20	10	33	0.38	−0.57	0.10	.....	7	14	11	6	sw.	C. W. Shumaker
Power	Richland	1,020	22	27.4	+3.8	63	13	−11	1	48	0.88	+0.17	0.40	8.8	4	15	4	12	nw.	J. A. Power
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.40	11.7	6	8	10	13	nw.	R. E. Sheriff
Steele	Kidder	1,857	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. S. Wood
Towner	McHenry	1,482	12	25.2	+9.6	59	14	−19	21	38	1.10	+0.09	0.30	11.0	7	4	15	12	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	26.4	.....	63	14	−12	*21	38	1.82	.....	0.50	16.0	6	13	8	10	nw.	E. G. Ramm
University	Grand Forks	830	22	24.9	+2.1	55	13	−10	1	35	0.68	−0.05	0.35	5.0	10	14	7	10	nw.	U. S. W. B.
Wahpeton	Richland	962	20	24.8	−2.0	61	13	−13	1	35	1.70	+0.74	1.45	7.5	4	9	12	10	nw.	F. E. Smith
Walhalla	Pembina	966	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	27.2	+1.7	65	17	− 2	28	43	1.32	.....	0.62	.....	4	9	14	8	n.	K. Klein
Westhope	Bottineau	1,508	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. A. Schwader
Williston	Williams	1,875	35	27.4	+5.8	65	14	−15	26	38	0.50	−0.18	0.24	4.2	6	1	14	16	nw.	U. S. W. B.
Willow City	Bottineau	1,471	22	23.8	+5.7	54	14	−15	26	49	1.82	+1.11	0.60	17.5	8	5	14	12	nw.	M. A. Ostby
Zap	Mercer	.....	1	26.6	.....	67	13	−20	26	44	1.20	.....	0.60	12.0	4	2	15	14	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	26.5	+5.2	60	13	−10	1	37	1.47	+0.33	0.98	14.6	10	15	6	10	nw.	U. S. W. B.
Averages		.....	.....	25.5	+3.2	76	*13	−20	*10	55	0.90	+0.03	1.45	9.2	5	10	9	12	nw.	.....

All records are used in determining section means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for March, 1914.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red			T.		T.	T.		T.		T.											T.				.55	.10						0.65
Aplin	Knife				T.	T.	T.			T.	T.						T.		.05	T.	.20				.12	.15		.35				0.87
Ashley	Missouri								.10		.10										.30				.50	.20						1.20
Beach	Lit. Missouri				T.	T.					T.								.06						.15	.10		.02	.04			0.37
Belfield	Heart												.30						.22						.20							0.72
Berthold Agency	Missouri		T.		T.					.02									.02	T.	.06				.05	.12		.15			T.	0.42
Bismarck	Missouri				.03	T.	T.	T.		.01	.02						T.		T.		.12				.75	.25		.03	.02	T.	T.	1.23
Bottineau ‖ ‖	Mouse						T.			.01	.04					.05					.11	T.				T.	.03		.08			T.	0.32
Bowbells ‖ ‖	Mouse																																
Buford	Missouri									T.	T.						T.		.20		.30				.20	.40						1.10
Cando	Sheyenne									.02															.10	.25	.10					0.47
Carson	Heart				T.	T.													T.		T.				.20		.40					0.60
Colgate	Sheyenne		.15		T.	T.	T.			.16												T.			.48		.10					0.89
Crosby	Mouse				T.					.12	T.								.04	T.	.09					.16		T.				0.41
Devils Lake	Sheyenne				T.		T.	T.	T.	.21						T.	T.				.01		T.		.06	.06		.03	.02			.37	0.76
Dickinson	Heart		T.		T.						.20					T.			.40						.30			.35				.02	1.27
Donnybrook	Mouse				T.		T.				.40					T.					.15						.20	.10				T.	0.85
Dunseith	Mouse						T.			.17											.15						.03	.22					0.57
Eckman	Mouse						T.			.26											.07				T.	.12	T.	.05	T.	T.		T.	0.50
Edgeley	James		.01		T.						T.															.50						.06	0.57
Energy	Missouri				T.					T.											.20				.30	.35		.35				1.20
Epping	Missouri									.14											.08					.15		.10				0.47
Fessenden ‖ ‖	James					T.	T.	T.		T.	.35						T.	T.			T.	.10				.38	.14		.13				1.10
Forman	Sheyenne		T.							.01	1.00					T.										.60						.05	1.66
Fullerton	James		.06		T.		.03			.14	.18														.03	.32	.23					.28	1.27
Garrison	Missouri						T.			.30															.20	.30		.20					1.00
Grafton ‖ ‖	Red							.01														.06				.37	.05		.10		T.	T.	0.59
Granville	Mouse																																
Haley	Grand				T.	T.													.40		T.	T.					.10					0.60
Hannah	Pembina						T.		T.	T.						T.					.10				.10		.10	.30				0.60
Hansboro	Red																																
Hettinger	Grand																		.25						.23			T.	T.	T.	T.	T.	0.48
Hillsboro	Red		T.		.05	.14	T.			T.							T.	T.			T.	.10			.18	.60	T.					T.	1.07
Howard	Missouri	T.		T.					T.	.50	T.								.30		.10				T.			T.		T.		0.90
Jamestown ‖ ‖	James		.20			.05	.02				.60	.10				T.						T.			.30	.10					T.	1.37
Lakota	Sheyenne				.06		.01	T.		.06	T.						T.	T.			T.				.04	.08	.08	T.	.04			T.	0.37
Lamoine	Missouri					T.	T.			.20							T.				*	.20			.20	*	.20	T.	.10			T.	0.90
Langdon	Pembina					T.										.04					.02				T.			.28				.06	0.40
Larimore ‖ ‖	Red	.06	.01				.01	.01		.40												.03				.21	.02		.06				0.39
Lisbon ‖ ‖	Sheyenne			.02		T.		T.			.40							T.				T.									T.	T.	0.42
McHenry	James						.01	.01		.40											.05				.40	.20						.06	1.13
McKinney	Mouse				T.		T.			.30	.10										.10					.10							0.60
McLeod	Sheyenne										.20															.05	.05						0.30
Mandan	Missouri																																
Manfred	Sheyenne				T.		T.	T.		.25	.15							T.			.20				.30	.15	T.	.02	.10				1.17
Marmarth	Lit. Missouri		T.							T.						.01			.09			.03			.15	.02			.07		T.	.08	0.45
Marstonmoor	James																																
Mayville	Red		.02		.05	.05																				.40						.18	0.70
Melville	James									.15	.45														.40	.05	.10					.20	1.35
Milnor	Red		T.	T.	T.	T.				T.	.35														T.	.25	.29					.05	0.94
Minot ‖ ‖	Mouse		T.							.10	.20										.05	.05				.10	.10		.20			T.	0.80
Minto	Red																								*	*		.45				T.	0.45
Mott	Cannon Ball																		.52		.28				.47	.18			T.	T.			1.45
Napoleon ‖ ‖	Missouri						T.		.10		.10										.30				.50		.20						1.20
New England	Cannon Ball																		.40					.80		.20		.05	.02				1.47
New Rockford	James																																
New Salem	Heart				T.						T.							T.	.15	T.	.20				.80	.15		.20	.05				1.55
Orange	Cannon Ball																		1.20							.20							1.40
Oriska	Sheyenne			T.	T.	T.	T.		T.	.20	.20						T.				T.				*	*	1.10					T.	1.50
Park River	Red						T.		T.	T.						T.	T.				.02		T.		T.	.11	T.		.02			.09	0.24
Pembina ‖ ‖	Red				.05										.02	.03	.06	.08													.04	.10	0.38
Power	Sheyenne		.08		T.	T.			T.		.30														.10	.40							0.88
Ranger	Lit. Missouri				T.	.02	T.				T.					T.			.40		.10				.30	.25	T.	.10					1.17
Steele	Mouse																																
Towner	Missouri									.30	.10						T.				.20				.10	.05	.05	.30					1.10
Turtle Lake	Red				T.		T.			.20	.10										.35				.35	.50		.32					1.82
University	Red		.02		.20	.01	T.		T.	T.						T.	.01				.02	T.	T.		.30	.08	.01		.01			.02	0.68
Wahpeton ‖ ‖	Pembina					.05					.15															1.45	.05						1.70
Walhalla	Missouri																																
Washburn	Mouse										.31										.18					.62		.21					1.32
Westhope	Missouri																																
Williston	Pembina				T.				T.	.02	T.								.22	.01	.01				.01	.23		T.	T.				0.50
Willow City	Knife					.05	T.			.30						.06	.05				.40				.05	.30		.60					1.81
Zap	Missouri																				.60				.20	.30		.10					1.20
Moorhead, Minn.	Red		.02		T.	.21	.06			.01	.01							T.			T.	.02	T.		.75	.32	.06					.01	1.47

‖ ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. * Precipitation included in the next following measurement.
T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	26	38	42	45	40	42	30	31	34	29	32	50	60	62	54	50	38	34	30	30	31	28	65	30	32	20	35	40	41	45	45	38.4
	Minimum	12	18	20	21	17	24	30	19	24	29	13	6	29	27	34	30	25	17	10	13	4	4	11	12	10	− 4	− 3	32	34	29	36	18.8
Aplin	Maximum	31	51	44	44	44	34	40	38	35	30	52	60	52	62	54	50	42	34	34	24	22	33	40	30	25	18	17	25	33	35	43	37.9
	Minimum	2	22	15	22	24	20	20	18	25	14	8	12	—	28	34	22	20	15	18	−14	−14	10	16	20	10	−20	−11	10	20	30	32	a14.5
Ashley	Maximum	22	38	40	46	40	36	32	42	33	30	35	55	65	62	60	52	41	30	40	29	35	35	51	39	30	22	30	30	33	42	40	39.2
	Minimum	− 1	18	20	29	30	22	20	18	22	17	8	20	32	30	42	30	21	20	10	20	0	12	21	25	− 1	− 1	2	25	28	30	32	19.4
Beach	Maximum	33	37	46	44	42	30	47	38	36	36	51	62	63	64	60	44	42	35	30	27	26	33	39	30	25	10	18	31	26	27	29	37.5
	Minimum	13	18	19	28	24	21	9	20	18	17	9	18	31	29	34	29	19	18	0	10	0	8	15	21	− 3	−12	− 1	− 1	18	16	17	14.6
Berthold Agency	Maximum	35	48	48	44	43	37	43	41	36	29	51	59	67	65	60	50	40	30	31	27	25	33	40	35	24	15	17	29	34	39	41	39.2
	Minimum	1	17	14	26	25	20	18	16	25	10	5	15	26	20	38	20	21	16	19	14	−12	11	18	21	10	−20	− 6	9	19	30	33	15.5
Bismarck	Maximum	27	48	46	48	44	30	36	40	34	25	47	53	71	66	54	52	32	27	30	30	22	33	40	29	20	11	26	26	34	39	44	37.5
	Minimum	4	22	22	30	29	20	20	22	24	11	8	19	30	27	32	28	19	17	16	10	− 5	12	21	15	5	−10	−10	20	25	32	34	17.7
Bottineau §§	Maximum	24	38	39	39	37	25	26	30	24	24	33	37	45	46	43	43	26	30	34	26	25	25	38	32	26	15	21	30	38	39	39	32.2
	Minimum	−10	0	17	19	25	18	16	16	20	10	− 8	2	16	24	26	26	13	13	13	15	− 7	− 1	7	13	4	− 5	− 4	5	17	28	28	11.5
Bowbells §§	Maximum																																
	Minimum																																
Carson	Maximum	30	48	48	47	44	34	41	42	45	32	48	55	70	65	76	51	40	28	28	25	20	30	36	33	25	14	26	26	32	36	42	39.3
	Minimum	2	18	18	24	25	22	18	16	26	18	5	12	25	26	36	24	18	15	17	14	− 9	10	16	22	12	a12	−10	14	18	31	32	16.2
Crosby	Maximum	34	39	41	39	34	31	40	36	30	26	39	50	50	56	51	42	36	28	33	28	25	28	34	31	18	9	16	30	32	43	45	34.6
	Minimum	3	12	18	29	24	15	10	25	21	6	12	19	33	29	31	27	18	17	16	11	− 7	12	15	18	5	−15	− 8	11	17	23	33	15.5
Devils Lake	Maximum	20	41	38	38	37	28	30	28	25	21	33	39	52	53	48	45	25	25	30	31	20	24	37	33	22	14	25	29	37	38	39	32.4
	Minimum	− 5	16	20	28	27	15	15	18	18	− 1	− 6	14	29	25	33	24	13	10	9	2	− 3	9	13	10	1	− 9	− 3	23	23	25	32	13.7
Dickinson	Maximum	34	47	47	44	43	36	44	39	37	32	49	62	65	64	54	46	39	32	26	25	22	29	34	31	27	9	19	24	32	35	38	37.6
	Minimum	5	20	16	26	25	21	3	19	21	16	5	14	29	30	35	21	18	16	14	13	− 6	9	10	23	7	−14	− 6	7	11	30	33	15.2
Donnybrook	Maximum	28	42	42	41	39	31	38	33	28	21	39	45	55	59	51	45	31	24	37	29	23	29	36	32	—	10	12	29	33	40	40	a34.7
	Minimum	1	24	19	30	25	19	15	20	21	6	− 5	12	33	26	35	27	19	16	16	12	11	11	10	13	—	−14	− 8	5	16	30	33	a15.2
Dunseith	Maximum	22	41	35	—	—	31	25	29	25	21	29	38	44	48	45	40	33	27	32	28	22	23	34	30	24	15	21	32	37	38	39	b31.3
	Minimum	−15	—	17	—	10	0	14	18	16	7	−10	12	17	19	26	24	12	12	9	−12	−12	7	7	13	− 2	−12	− 2	19	16	25	32	b 9.2
Edgeley	Maximum	22	41	42	51	42	35	31	38	32	27	35	41	65	57	52	51	41	25	31	31	28	34	42	33	29	18	29	33	35	41	37	37.1
	Minimum	− 7	18	20	23	30	20	19	17	19	13	− 7	10	25	28	32	28	19	14	7	19	− 1	13	14	20	11	1	− 4	28	28	31	31	16.7
Fessenden §§	Maximum	26	45	48	44	42	30	42	33	28	25	37	47	64	61	48	51	35	31	34	30	23	33	46	36	20	25	26	31	36	38	40	37.1
	Minimum	− 5	3	19	25	30	20	18	17	19	12	−14	6	12	25	28	25	16	13	11	17	− 5	0	13	16	3	−15	−11	5	22	24	32	12.3
Forman	Maximum	28	35	42	52	41	38	32	—	38	31	35	47	64	56	57	52	42	28	33	37	35	37	45	46	32	23	34	38	40	40	39	a39.9
	Minimum	− 9	− 9	12	25	32	23	19	—	18	14	−15	13	24	26	37	28	19	15	11	16	4	31	13	20	14	6	− 2	33	30	32	34	a17.1
Fullerton	Maximum	23	36	41	50	41	34	30	35	30	27	34	39	64	57	53	50	32	25	29	33	24	32	40	35	23	20	32	34	38	42	42	36.3
	Minimum	− 4	19	20	25	31	21	19	22	22	10	− 7	16	26	29	34	30	18	15	11	18	2	15	15	22	11	3	− 1	30	30	32	34	18.3
Garrison	Maximum	27	45	45	42	34	35	40	32	29	45	51	63	64	55	49	36	25	33	28	23	32	40	33	21	17	17	24	34	38	39	36.8
	Minimum	0	20	17	19	25	16	18	16	21	1	− 9	13	32	25	36	23	19	16	20	15	−10	10	18	19	9	16	− 7	10	10	20	32	14.1
Grafton §§	Maximum	19	31	42	42	35	29	29	30	29	25	34	45	55	48	50	45	26	26	30	36	25	24	39	33	23	20	31	35	10	44	41	33.6
	Minimum	−13	− 5	12	22	29	19	17	15	15	11	4	17	27	23	25	25	10	8	7	14	− 3	6	6	13	6	− 1	− 2	− 7	19	22	29	12.4
Granville	Maximum																																
	Minimum																																
Hannah	Maximum	21	36	34	37	33	30	32	26	28	26	30	36	45	44	40	39	25	23	34	25	23	20	34	20	20	15	18	32	35	40	41	30.1
	Minimum	−19	0	13	21	27	15	10	11	14	5	0	11	20	19	32	25	8	4	2	4	− 9	5	10	9	− 5	−14	−10	13	1	14	29	8.5
Hettinger	Maximum	26	42	39	43	41	32	38	38	45	33	46	55	65	65	58	47	42	38	28	21	21	30	36	31	26	10	23	25	32	33	43	37.2
	Minimum	1	18	11	29	22	21	11	30	23	20	12	18	28	30	33	21	20	15	12	8	− 1	9	14	24	10	−10	0	13	18	31	32	16.9
Hillsboro	Maximum	16	28	40	39	35	34	30	29	29	28	30	45	57	55	54	49	40	26	29	33	30	25	41	40	31	20	31	36	40	43	42	35.3
	Minimum	− 9	16	18	25	31	21	18	20	20	19	4	19	28	26	37	31	12	11	9	17	0	16	8	18	9	− 1	− 3	29	27	28	33	17.3
Howard	Maximum	38	37	38	37	39	38	28	34	37	22	40	50	53	57	48	47	33	28	28	29	29	30	35	31	16	5	15	26	32	42	43	34.4
	Minimum	0	23	19	10	10	10	10	12	13	9	15	21	19	30	28	18	14	14	18	16	3	12	12	16	− 4	−19	− 9	4	14	30	33	12.9
Jamestown §§	Maximum	24	32	40	48	40	36	30	33	30	30	34	41	59	57	50	48	28	25	32	33	24	30	40	31	20	19	34	35	36	40	40	35.5
	Minimum	0	22	22	27	34	25	22	24	23	20	−12	2	17	25	34	30	9	−15	13	15	2	3	16	26	13	− 2	− 1	10	30	31	35	17.1
Lakota	Maximum	24	34	37	38	35	34	28	27	26	25	31	38	52	48	47	46	34	29	29	31	21	24	37	34	23	16	23	31	34	41	47	33.0
	Minimum	17	15	19	27	29	15	17	18	18	7	−10	12	28	24	34	27	12	9	4	11	− 5	9	5	12	4	− 8	− 5	22	20	21	27	14.0
Lamoine	Maximum	22	43	38	43	39	32	32	33	29	24	36	42	59	58	48	46	33	23	28	30	17	26	34	30	22	15	19	25	33	37	41	33.3
	Minimum	6	17	16	26	25	17	12	11	19	8	−12	8	28	24	34	22	17	12	12	17	−13	9	10	21	6	−17	−10	15	21	25	31	13.5
Langdon	Maximum	18	37	37	42	33	20	30	31	29	21	31	40	48	48	44	41	21	22	29	34	22	21	35	27	18	15	28	32	38	41	40	31.4
	Minimum	−19	−10	17	25	20	0	13	19	19	9	5	25	25	21	35	21	10	0	9	20	− 1	− 5	1	18	0	−11	− 8	1	12	20	31	10.4
Larimore §§	Maximum	18	28	39	41	35	28	29	28	26	25	32	46	56	50	58	59	25	25	29	35	23	25	41	25	21	20	30	33	38	40	38	33.7
	Minimum	−10	5	14	20	28	18	18	19	21	14	2	16	24	24	25	29	12	8	7	9	7	6	8	15	5	3	− 7	5	23	22	31	13.6
Lisbon §§	Maximum	50	36	40	52	48	38	35	33	30	32	31	51	60	58	50	52	30	30	38	36	38	40	45	40	44	48	54	48	50	45	40	42.7
	Minimum	4	10	12	22	30	28	18	25	22	15	−14	− 9	26	26	28	22	18	15	15	15	2	10	10	15	10	18	30	30	28	32	31	17.5
McHenry	Maximum	22	43	40	40	39	33	30	30	26	21	33	44	55	51	47	46	26	25	31	33	22	26	38	33	23	18	25	32	34	39	40	33.7
	Minimum	− 7	16	18	27	30	29	16	19	20	8	−15	23	25	32	32	25	13	11	7	15	− 5	10	10	15	4	−13	− 8	22	22	21	32	14.7
McKinney	Maximum	29	43	45	42	40	36	40	33	31	26	40	45	52	61	53	46	37	28	35	30	28	31	39	32	21	16	13	45	45	46	46	37.2
	Minimum	− 2	24	23	22	22	21	18	15	21	5	−12	− 3	10	24	21	28	20	18	20	10	11	10	15	− 5	−13	5	10	12	30	32	13.6
Manfred	Maximum	28	47	42	44	40	35	37	34	29	25	38	42	58	60	57	52	40	25	35	33	20	27	39	35	21	26	21	28	37	42	42	36.7
	Minimum	− 4	20	20	29	19	19	18	16	20	5	−15	7	30	25	37	25	25	13	15	15	− 8	12	13	15	5	−15	−12	20	24	26	32	14.5
Marmarth	Maximum	32	41	42	43	40	31	45	39	40	30	51	62	63	63	51	45	41	35	26	26	25	34	39	30	24	15	24	28	33	38	44	38.1
	Minimum	14	28	21	27	26	21	8	22	25	17	9	25	30	33	33	26	22	16	1	10	5	8	16	22	5	−10	3	11	20	30	32	17.9
Minot §§	Maximum	31	48	45	44	35	30	45	35	26	21	45	59	76	70	56	53	39	39	37	25	29	35	44	35	20	19	19	30	35	44	42	39.1
	Minimum	3	20	17	18	29	19	8	19	21	10	9	12	21	29	21	27	21	17	18	25	−10	13	11	16	6	−11	−10	4	14	22	32	14.5
Mott	Maximum	35	46	50	52	46	45	40	44	53	42	50	58	68	65	63	58	45	36	43	27	34	32	40	34	29	8	35	40	34	33	38	42.7
	Minimum	7	18	14	23	22	13	3	17	19	17	7	15	23	26	23	11	13	15	10	4	− 6	7	12	6	6	−14	− 2	10	5	14	25	11.8
Napoleon §§	Maximum	23	42	40	47	42	27	35	43	30	22	36	47	67	65	60	54	33	25	33	35	22	30	40	30	25	18	31	28	31	42	42	36.9
	Minimum	− 6	0	16	20	27	18	15	13	11	13	− 3	9	12	25	28	22	18	10	2	4	−12	− 8	11	19	6	−15	− 8	4	23	25	30	10.6
New England	Maximum	35	47	44	45	45	42	45	40	34	52	60	62	65	63	50	46	—	42	35	45	21	28	36	32	30	—	20	25	33	40	50	b42.0
	Minimum	7	35	14	36	25	2	36	30	17	34	14	18	24	24	35	34	—	14	11	11	−13	5	14	24	8	—	15	10	15	23	27	b19.0
New Rockford	Maximum																																
	Minimum																																
New Salem	Maximum	29	48	46	46	41	32	48	39	39	32	49	61	68	65	60	51	44	29	30	21	19	29	38	34	20	17	25	26	19	29	40	38.0
	Minimum	1	20	19	28	24	19	17	18	24	14	6	16	34	31	37	22	20	20	16	12	−10	9	17	16	8	−15	−12	13	3	0	31	14.8
Orange	Maximum	30	44	41	51	47	28	37	40	47	32	46	53	67	65	58	52	41	30	30	32	17	28	35	28	28	13	27	27	32	34	40	38.1
	Minimum	6	15	19	26	25	0	7	19	22	16	10	15	30	31	32	19	18	9	0	8	− 9	6	13	21	5	−10	− 4	17	19	21	32	14.1
Oriska	Maximum	28	32	40	51	34	34	31	29	28	24	28	44	62	56	54	54	38	26	33	36	28	28	43	43	35	23	32	35	36	39	38	36.8
	Minimum	8	15	18	28	19	19	23	23	18	12	− 8	18	34	37	30	29	14	14	3	20	1	10	20	35	− 5	− 5	−10	29	27	27	32	17.3
Park River	Maximum	17	34	39	45	36	32	28	29	30	25	33	44	55	51	51	46	28	24	29	32	23	24	39	36	21	19	24	32	38	41	39	33.7
	Minimum	−10	−14	21	25	31	18	17	20	19	11	4	19	28	21	20	23	10	7	6	6	− 1	12	6	14	4	− 4	− 4	2	20	19	31	12.3
Pembina §§	Maximum	20	28	30	22	20	16	12	10	5	12	18	22	28	30	38	34	32	30	24	30	20	15	20	18	15	22	18	22	34	40	39	23.4
	Minimum	−10	10	12	16	12	8	5	− 2	− 3	−20	−12	− 8	− 5	− 2	5	10	8	10	5	8	10	5	0	5	− 2	0	2	0	8	12	18	3.2
Power	Maximum	22	35	45	48	36	32	33	33	29	25	39	43	63	50	55	52	30	28	35	35	29	34	45	31	25	25	33	40	44	43	37	37.2
	Minimum	−11	18	19	24	32	23	18	22	17	19	− 9	18	25	25	35	29	17	12	11	13	2	12	10	25	12	7	− 3	33	30	30	33	17.7
Towner	Maximum	27	44	42	41	40	36	30	33	32	23	38	41	54	59	55	46	37	27	35	30	19	26	39	36	27	19	23	30	38	42	39	35.7
	Minimum	− 3	19	21	29	29	18	15	16	21	13	9	6	29	25	35	26	16	15	16	16	−19	11	13	16	7	−17	− 6	18	23	29	11	14.7
Turtle Lake	Maximum	25	47	44	43	42	36	35	39	31	22	42	48	62	63	60	47	39	27	31	31	22	29	41	37	23	14	17	25	34	40	41	36.7
	Minimum	0	20	18	29	26	17	17	14	17	8	12	14	32	25	36	23	20	15	15	16	−12	10	17	21	8	−12	− 9	15	23	30	33	16.0
University	Maximum	18	27	39	38	34	26	23	28	28	25	30	42	55	48	52	48	25	25	29	35	26	24	39	36	23	18	31	35	41	45	41	33.5
	Minimum	−10	17	19	28	27	19	18	17	18	13	6	18	30	25	35	23	12	10	9	10	− 1	12	8	19	9	2	− 4	28	27	28	33	16.3
Wahpeton §§	Maximum	5	29	36	49	35	35	33	31	30	20	26	44	61	60	40	36	28	23	30	34	30	32	38	36	30	12	35	35	36	46	38	34.0
	Minimum	−13	5	17	22	35	22	16	18	18	16	− 7	15	27	25	34	28	15	12	8	13	6	8	10	20	12	5	− 4	20	20	30	33	15.7
Washburn	Maximum	26	48	43	45	43	37	38	45	38	34	48	50	60	50	10	40	65	37	37	32	31	32	31	34	24	24	27	31	30	36	48	38.8
	Minimum	4	19	20	31	28	19	21	19	22	9	5	20	32	22	16	20	22	17	20	17	8	11	8	12	10	4	5	− 2	8	12	20	15.5
Westhope	Maximum																																
	Minimum																																
Williston	Maximum	39	43	45	43	40	28	46	37	32	26	49	58	62	65	52	47	38	35	30	26	27	31	36	33	20	9	16	29	34	45	42	37.2
	Minimum	10	30	22	30	26	17	11	22	25	11	13	20	31	35	28	25	20	20	19	7	− 3	14	19	19	− 8	−15	2	8	17	33	34	17.5
Willow City	Maximum	25	39	39	38	39	35	27	31	30	24	37	41	48	54	47	45	35	27	35	29	25	25	38	33	24	15	17	37	40	41	41	34.2
	Minimum	−11	19	15	28	27	18	17	17	20	8	−12	1	18	25	34	22	15	14	15	12	− 4	7	12	17	4	−15	− 2	15	21	28	32	13.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

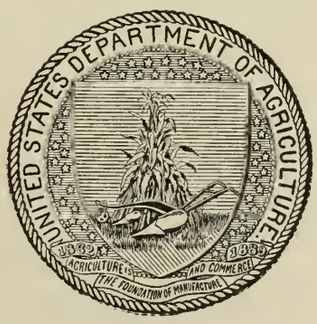
NORTH DAKOTA SECTION

APRIL, 1914

BY

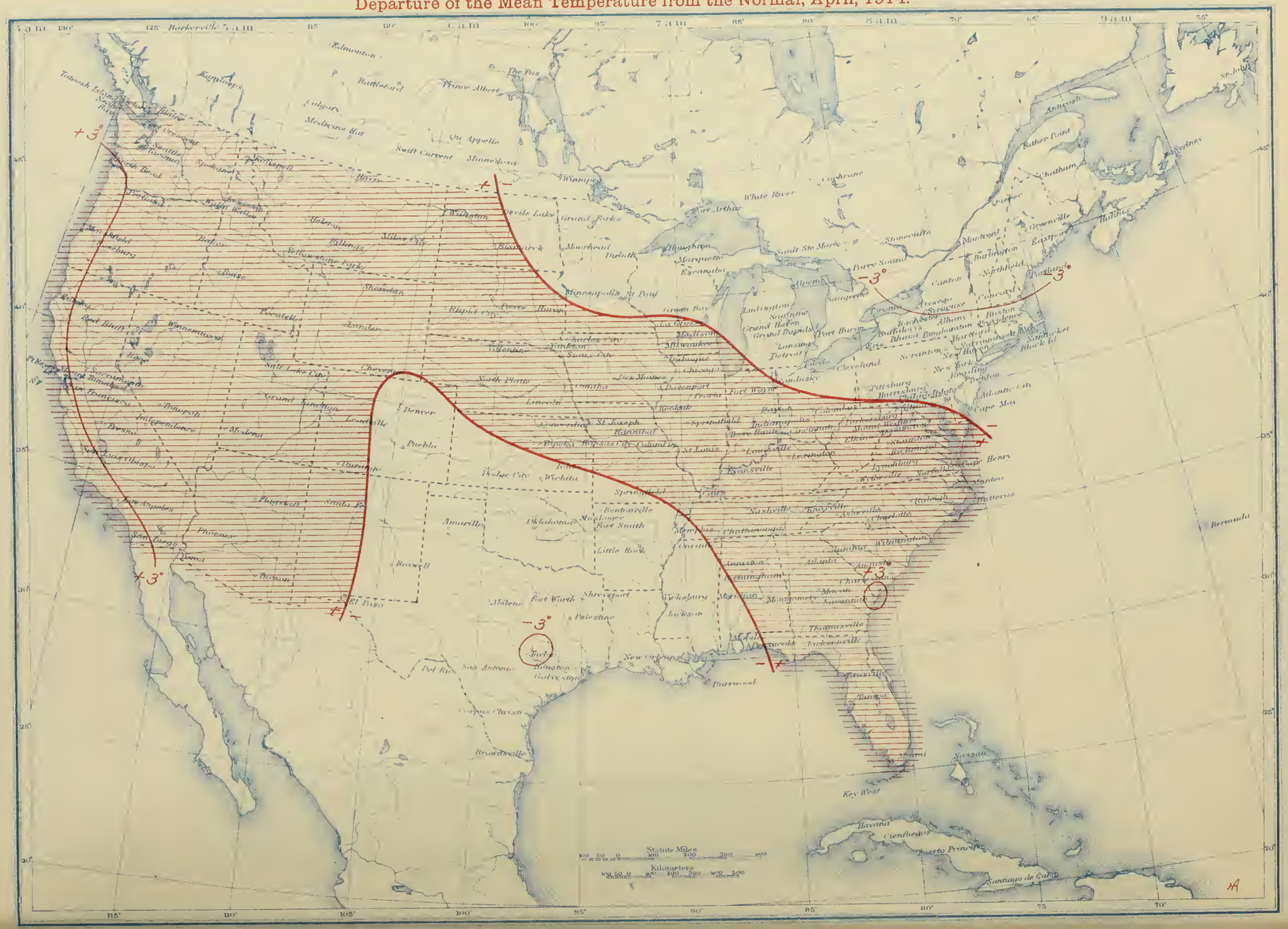
ORRIS W. ROBERTS

SECTION DIRECTOR



MINNEAPOLIS, MINN.
WEATHER BUREAU OFFICE
MAY 25, 1914.

Departure of the Mean Temperature from the Normal, April, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., APRIL, 1914. No. 4.

GENERAL SUMMARY.

Generally favorable weather prevailed during April. Although the cool weather and lack of sunshine delayed the development of foliage, fall sown grains made rapid growth. Rains interfered with field work to quite an extent in the eastern portion of the State, especially during the latter part of the month. A severe sleet storm, mention of which appears elsewhere in this report, caused considerable damage and inconvenience. The heaviest precipitation occurred in the Red River Valley, and the least in the southwest portion of the State. The temperature and sunshine were below normal. The precipitation was above the average.

PRESSURE.

The mean sea-level pressure for the State, as determined from five reporting stations, was 30.06 inches. The highest pressure was 30.66 inches at Williston on the 7th; the lowest was 29.42 inches at Devils Lake on the 10th.

TEMPERATURE.

The mean temperature for the State was 40.9°, or 0.5° below the normal, and 5.9° lower than the mean for April, 1913. The highest monthly mean temperature reported was 45.4° at Steele, Kidder County; the lowest was 33.8° at Hannah, Cavalier County. The highest temperature reported was 84° at Turtle Lake, McLean County, on the 26th; the lowest was 2° at Dunseith, Rolette County, and Hannah, Cavalier County, on the 7th. The greatest daily range of temperature was 70° at Park River, Walsh County, on the 11th. The greatest monthly range of temperature was 74° at Turtle Lake, McLean County; the least was 57° at University, Grand Forks County. The first decade was the coldest, and the second the warmest. The distribution of temperature geographically was fairly uniform, but the distribution throughout the month was uneven.

HUMIDITY.

The 8 a. m. relative humidity at Bismarck was 79.2 per cent, 8 p. m., 54.5 per cent, average 66.8 per cent; Devils Lake, 8 a. m., 81.1 per cent, 8 p. m., 58.1 per cent, average 69.6 per cent; Moorhead, 8 a. m., 85.3 per cent, 8 p. m., 71.2 per cent, average 78.2 per cent; Williston, 8 a. m., 75.8 per cent, 8 p.m., 46.7 per cent, average 56.2 per cent; average for the State 67.7 per cent.

PRECIPITATION.

The average precipitation for the State was 1.66 inches, or 0.39 inch above the normal, and 0.95 inch more than the average for April, 1913. The greatest monthly amount reported was 4.10 inches at Power, Richland County; the least was 0.20 inch at Lamoine, Kidder County, and Ranger, Billings County. The greatest amount of precipitation recorded in any twenty-four consecutive hours was 2.05 inches at Lisbon, Ransom County, on the 28th. The average depth of snowfall was 2.8 inches. The greatest depth of snowfall was 8.0 inches at Epping, Williams County; several stations reported that no snow whatever occurred during the month. The average number of days with 0.01 inch or more of precipitation was six.

WIND.

The total wind movement at Bismarck was 8,361 miles, or an average hourly velocity of 11.2 miles; Devils Lake, 9,076 miles, average hourly velocity of 12.2 miles; Moorhead, 7,007 miles, average hourly velocity of 9.4 miles, and Williston, 7,091 miles, average hourly velocity of 9.5 miles. The average movement for the State, determined from the four regular stations, was 8,256 miles, or an average hourly velocity of 11.5 miles. The highest velocity recorded was 52 miles per hour from the north at Devils Lake and University on the 18th. The prevailing direction was northwest.

SUNSHINE AND CLOUDINESS.

There was somewhat less than the usual sunshine, the average being about six per cent below the normal. There were 9 clear days, 10 partly cloudy, and 11 cloudy days.

MISCELLANEOUS.

The flood conditions that obtained at the close of March prevailed during the first three days in April. On the 4th the flood waters which had accumulated at a point 35 miles above Bismarck came down, causing a rapid rise at all points below to the South Dakota line. The ice broke up gradually and did not gorge much, although quite a number of low places along the river were inundated. Practically no flood damage occurred, as all interested parties were warned.

A severe sleet storm, the worst for many years, occurred in the northern portion of the State on the 28th, resulting in considerable damage to telegraph, telephone and electric light lines. The vicinity of Devils Lake appears to have suffered the most, although the localities of Garrison, Wishek, Lahr and Oakes suffered to a limited extent. The following notes from the report of the Devils Lake station are interesting: "The important feature of the weather during April was the heavy sleet storm of the 28th. The territory covered by the storm embraced nearly the entire northeast quarter of the State, with Devils Lake as the central point. The fall of sleet was exceptionally heavy at Devils Lake, measuring nearly three-fourths inch. The sleet began about 4 a. m. and turned to moist snow at noon. The fall of snow amounted to three inches. The wind velocity was high during the early portion of the storm, causing large damage to telephone and telegraph lines. It is estimated that the pecuniary loss to telephone and telegraph lines and railroad operation amounted to $100,000."

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	37.6	−3.8	75	− 2	2.65	+1.18
1893	34.3	−7.1	77	− 8	1.73	+1.26
1894	42.8	+1.4	92	12	3.06	+1.49
1895	49.6	+8.2	87	10	2.23	+0.76
1896	40.1	−1.3	92	2	4.37	+2.90
1897	40.8	−0.6	93	7	1.01	−0.46
1898	41.9	+0.5	87	− 4	1.38	−0.09
1899	38.0	−3.4	86	−22	1.36	−0.11
1900	49.3	+7.9	93	11	0.75	−0.72
1901	44.5	+3.1	92	10	0.98	−0.49
1902	40.2	−1.2	87	− 2	1.06	−0.41
1903	42.5	+1.1	83	8	1.23	−0.24
1904	37.4	−4.0	91	2	1.70	+0.23
1905	40.2	−1.2	83	3	0.63	−0.84
1906	46.7	+5.3	88	8	1.59	+0.03
1907	31.9	−9.5	80	− 6	0.57	−0.90
1908	43.9	+2.5	91	−19	1.47	0.00
1909	34.2	−7.2	80	3	0.81	−0.66
1910	48.0	+6.6	96	4	1.30	−0.17
1911	41.5	+0.1	90	− 5	1.30	−0.17
1912	44.4	+3.0	88	2	2.34	+0.87
1913	46.8	+5.4	94	11	0.71	−0.76
1914	40.9	−0.5	84	2	1.66	+0.19

Climatological Data for April, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted	With .01 or more Precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	41.0	−1.1	75	13	14	11	44	2.56	+0.63	1.82	0.5	5	7	7	16	nw.	C. E. Wood
Aplin	Oliver	.....	7	43.2	.....	78	15	7	8	48	1.88	.....	1.73	7.0	6	13	16	1	nw.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	45.2	+3.5	77	13	14	8	41	1.49	−0.60	0.42	1.0	6	13	10	7	nw.	R. C. Miles
Beach	Golden Valley	2,576	8	43.0	.....	80	15	10	8	51	0.68	.....	0.39	0.5	5	18	9	3	nw.	D. J. Steiner
Belfield	Stark	2,583	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Russell
Berthold Agency	McLean	2,082	20	42.0	−1.5	79	15	7	7	52	1.11	+0.03	0.71	2.4	5	12	13	5	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	43.1	+0.5	76	23	12	7	46	0.92	−0.96	0.67	7.0	8	7	9	14	n.	U. S. W. B.
Bottineau	Bottineau	1,638	22	37.6	−1.5	70	* 4	7	7	44	1.34	+0.51	0.70	.....	7	7	6	17	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	38.8	.....	73	15	5	7	42	0.54	.....	0.20	.....	6	14	1	15	.....	G. H. Phelps
Buford	Williams	1,944	35	45.0	+2.3	78	15	13	8	44	0.45	−0.63	0.40	0.5	2	5	15	10	ne.	C. H. McCune
Cando	Towner	1,488	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	2	43.4	.....	76	15	5	8	50	1.15	.....	0.85	2.0	4	14	12	4	nw.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	2.70	.....	1.25	3.0	2	6	9	15	nw.	H. P. Rice
Crosby	Divide	1,954	7	41.4	.....	c75	15	c 9	7	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. C. Kaschau
Devils Lake	Ramsey	1,482	10	37.4	−0.8	69	20	8	7	40	1.21	−0.82	0.81	3.0	9	8	6	16	n.	U. S. W. B.
Dickinson	Stark	2,543	22	42.6	−0.1	77	15	8	8	46	0.80	−0.42	0.30	4.3	7	5	18	7	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	40.4	+1.0	74	15	7	7	43	1.69	+0.84	0.99	4.0	5	9	10	11	nw.	C. J. DeVore
Dunseith	Rolette	.....	18	36.5	−3.9	68	15	2	7	42	1.37	+0.64	1.02	1.7	7	8	8	14	nw.	C. E. Goodsell
Eckman	Bottineau	.....	9	41.2	.....	73	16	8	* 7	61	2.04	.....	1.33	6.0	9	10	12	8	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	13	42.2	+0.2	74	13	15	* 7	49	4.91	+3.12	1.90	0	7	5	4	21	nw.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	2.31	.....	0.80	.....	9	7	11	12	n.	N. W. Solomberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.45	8.0	2	22	6	2	e.	M. E. Uggen
Fessenden	Wells	1,610	2	39.4	.....	75	*14	10	* 7	49	0.91	.....	0.47	4.5	7	7	10	13	nw.	G. T. Seymour
Forman	Sargent	1,249	22	45.3	+1.4	82	13	13	11	45	3.10	+0.89	1.10	.....	6	.....	.....	.....	nw.	A. Maltby
Fullerton	Dickey	1,439	16	41.6	−0.7	75	23	15	11	48	4.02	+2.11	1.22	0.3	7	10	6	14	nw.	F. O. Alin
Garrison	McLean	1,901	19	42.0	−0.4	80	24	9	7	50	1.94	+0.88	0.89	6.5	5	8	15	7	nw.	G. L. Robinson
Grafton	Walsh	827	22	36.5	−3.5	70	16	10	11	38	2.40	+0.89	0.83	3.7	10	6	8	16	nw.	A. R. T. Wylie
Granville	McHenry	1,504	7	42.8	.....	74	22	15	7	33	1.03	.....	0.59	7.0	4	11	7	12	nw.	W. A. Christianson
Haley	Bowman	2,260	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Clark
Hannah	Cavalier	1,568	9	33.8	.....	67	20	2	7	43	2.25	.....	0.90	4.0	5	.....	.....	.....	nw.	J. Moffatt
Hansboro	Towner	1,597	6	.....	.....	.....	.....	.....	.....	.....	1.85	.....	0.75	.....	4	.....	.....	.....	.....	C. E. Blackorby
Hettinger	Adams	2,253	6	43.0	.....	b77	14	10	7	b47	0.88	.....	0.30	.....	5	5	10	15	nw.	W. R. Lanxon
Hillsboro	Traill	901	8	40.4	.....	69	13	13	11	43	3.26	.....	1.39	T.	8	7	12	13	nw.	F. E. Mayall
Howard	Williams	2,275	5	40.0	.....	75	15	11	7	45	0.33	.....	0.27	7.0	3	4	20	6	nc.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	40.4	−2.1	75	25	16	7	46	2.92	+1.13	0.90	.....	13	10	0	20	n.	T. Pettigrew
Lakota	Nelson	1,579	13	37.7	−0.9	68	16	9	7	44	1.17	−0.47	0.50	.....	6	5	20	5	n.	C. R. Pettes
Lamoine	Kidder	.....	6	40.3	.....	73	23	8	8	42	0.20	.....	0.10	1.0	2	14	6	10	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	35.2	.....	66	16	3	11	50	0.88	.....	0.35	3.0	6	10	11	9	nw.	R. T. Burke
Larimore	Grand Forks	1,134	19	37.4	−2.7	70	16	12	11	43	2.03	−0.51	0.95	0	9	10	7	13	nw.	J. M. Freeman
Lisbon	Ransom	1,091	10	42.0	+0.7	75	*13	12	11	46	3.22	+1.13	2.05	T.	9	8	3	19	nw.	W. S. Adams
McHenry	Foster	1,509	4	38.2	.....	70	20	10	7	47	1.42	.....	0.70	1.5	5	14	11	5	nw.	P. E. Truden
McKinney	Renville	1,640	20	41.6	+1.1	75	*14	7	8	46	0.60	−1.58	0.40	6.0	3	1	18	11	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	42.3	.....	74	17	13	11	42	2.70	.....	0.96	0.5	12	12	14	4	nw.	M. Reinholt
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pfaender
Manfred	Wells	1,605	11	c40.8	0.0	73	*15	10	7	43	1.05	−0.19	0.35	4.0	7	8	12	10	nw.	P. B. Anderson
Marmarth	Billings	.....	5	43.0	.....	76	15	12	8	46	0.78	.....	0.62	1.3	5	9	9	12	w.	S. P. Grane
Marstonmoor	Stutsman	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	18	41.6	−1.1	70	*13	12	11	40	2.77	+1.10	1.25	T.	6	12	3	15	.....	W. C. Gould
Melville	Kidder	1,590	16	c40.6	+0.7	c70	*20	c 9	11	47	0.85	−0.17	0.65	2.0	2	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	2.46	.....	0.79	.....	7	6	13	11	n.	Iij. Eduan
Minot	Ward	1,557	18	40.8	−0.7	80	14	10	* 7	44	2.01	+0.75	1.03	2.0	6	11	8	11	nw.	B. L. Davis
Minto	Walsh	820	21	39.4	+1.2	72	16	11	11	46	1.79	+0.18	1.05	.....	7	9	6	15	nw.	S. S. Marsh
Mott	Hettinger	2,424	7	44.9	.....	77	15	7	7	44	0.91	.....	0.28	2.5	6	8	6	16	nw.	O. H. Opland
Napoleon	Logan	1,955	22	40.6	−0.8	80	15	8	8	54	1.28	−0.46	0.55	5.0	6	4	3	23	se.	C. J. Hoof
New England	Hettinger	2,400	20	43.2	+0.7	a76	12	a 8	8	a46	0.48	−0.50	0.20	T.	3	.....	.....	.....	nw.	J. M. Connolly
New Rockford	Eddy	1,531	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. V. N. Sundberg
New Salem	Morton	2,163	9	42.0	.....	76	15	9	7	44	1.44	.....	0.60	3.5	5	11	14	5	nw.	J. Christiansen
Orange	Adams	2,586	5	42.6	.....	76	15	6	8	49	0.58	.....	0.27	0	3	15	8	7	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	42.0	.....	78	13	15	* 7	49	2.15	.....	0.90	.....	8	7	13	10	nw.	J. J. Taylor
Park River	Walsh	998	10	40.2	−1.0	76	11	6	11	70	1.94	+0.67	0.80	T.	7	8	15	7	nw.	G. M. Hargrave
Pembina	Pembina	789	40	37.2	−0.3	70	*15	10	* 7	41	0.62	−1.03	0.20	.....	6	6	4	20	e.	C. W. Shumaker
Power	Richland	1,020	22	b40.9	−1.3	b75	13	b11	8	b43	4.10	+2.22	1.70	2.0	7	8	6	16	nw.	J. A. Power
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	22	4	4	nw.	R. E. Sheriff
Steele	Kidder	1,857	17	45.2	+1.0	72	*15	23	10	25	0.67	−0.39	0.32	.....	2	9	13	8	nw.	H. S. Wood
Towner	McHenry	1,482	12	41.6	+0.8	71	14	10	7	44	1.49	+0.24	0.68	0.5	5	4	19	7	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	42.2	.....	84	26	10	7	45	1.00	.....	0.38	5.0	7	13	6	11	n.	E. G. Ranum
University	Grand Forks	830	22	38.6	−3.3	70	16	13	11	43	2.13	+0.04	1.36	1.6	11	8	5	17	nw.	U. S. W. B.
Wahpeton	Richland	962	20	39.2	−5.2	75	13	13	11	47	3.12	+0.78	1.05	.....	10	7	12	11	nw.	F. E. Smith
Walhalla	Pembina	966	7	.....	.....	.....	.....	.....	.....	.....	1.60	.....	1.00	6.0	3	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	44.4	−0.1	a78	14	a12	7	a41	1.39	+0.28	0.62	.....	6	.....	.....	.....	.....	K. Klein
Westhope	Bottineau	1,508	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. A. Schwader
Williston	Williams	1,875	35	42.8	+2.3	77	15	12	7	40	0.43	−0.80	0.30	2.7	5	6	13	11	n.	U. S. W. B.
Willow City	Bottineau	1,471	22	38.2	−2.0	71	15	8	7	58	1.31	+0.38	0.55	2.0	7	8	15	7	nw.	M. A. Ostby
Zap	Mercer	.....	1	42.0	.....	76	15	7	8	46	2.13	.....	1.75	3.0	5	9	12	9	n.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	40.2	−1.2	71	17	14	11	42	2.97	+0.64	1.44	2.1	12	12	7	11	n.	U. S. W. B.
Averages		.....	....	40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	2.8	6	9	10	11	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for April, 1914.

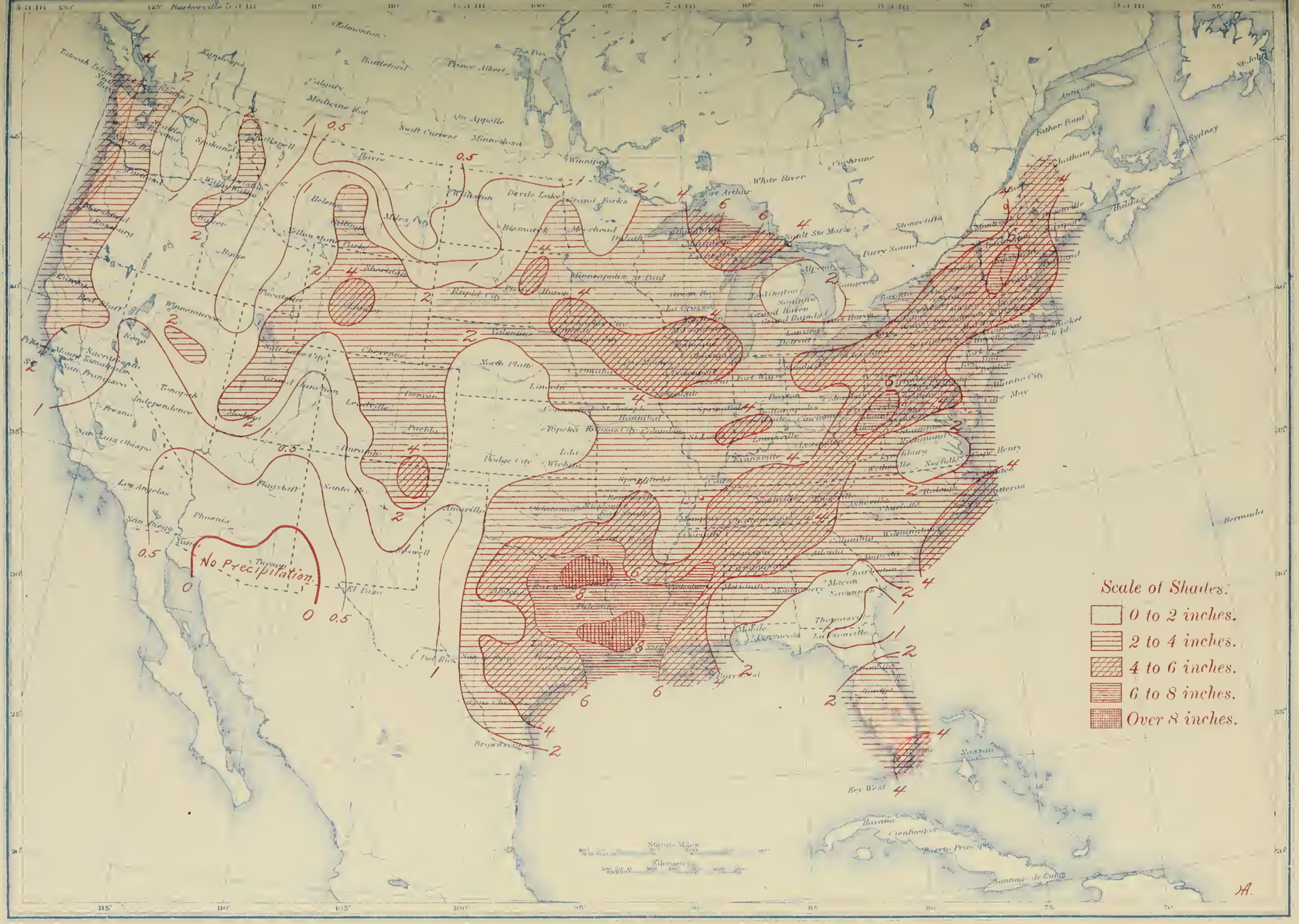
Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red	T.	T.				.05												.38	T.				T.	T.			.18	1.82	.13	T.		2.56
Apiin	Knife	T.			.03						T.							1.73			.01		.02	T.	.05				.04				1.83
Ashley	Missouri	T.									.10				T.				.34						T.	T.	.15	.32	.42	.16			1.49
Beach	Lit. Missouri									.10									.02		.10				.39				.07				0.68
Belfield	Heart																																
Berthold Agency	Missouri			.04						T.					T.		.13	.71			T.				.05				.18				1.11
Bismarck ***	Missouri	T.			.02		T.			T.	T.				T.		T.	T.			T.	T.	.01	.01	.19	.01	.01	.20	.47				0.92
Bottineau ‖	Mouse	T.	T.								.01					.01		.70	.50		.01				T.	.06				.05	T.		1.34
Bowbells ‖	Mouse										.12							.12	.05				.02			.03				.20			0.54
Buford	Missouri																								.40				.05				0.45
Cando	Sheyenne																																
Carson	Heart				T.													.85						.05	.05	T.		.20					1.15
Colgate	Sheyenne	T.				T.					.30							T.	1.02					.03	.01		.02		1.25	.06	.01		2.70
Crosby	Mouse																																
Devils Lake ***	Sheyenne	.02				T.	T.			T.	T.				T.		.03	.17	.05		.06		.01	.04	T.			T.	.80	.03	T.		1.21
Dickinson	Heart				.01			T.			.02						.30	.06					.01	T.	.10				.30				0.80
Donnybrook	Mouse	T.									.10				.10		*	.99					.10		T.				.40				1.69
Dunseith	Mouse						T.				.04							1.02	T.					.03	.14	.01			.10	.03			1.37
Eckman	Mouse	.11									.05				.03		.12	1.33	T.		T.		T.	.04	.09				.20	.07			2.04
Edgeley	James																		1.90					.01	.04		.95	.50	1.48	.03			4.91
Energy	Missouri	.02			.01	T.					.01				.10	.04		.80			.03	T.	T.		.50				.80				2.31
Epping	Missouri														.05													.45					0.50
Fessenden ‖	James	.18	T.	T.	T.			T.			.10	T.				T.		T.	.04		T.	.05		T.	.02	T.			.06	.47			0.91
Forman	Sheyenne	.53																	.45						.20		.32	.50	1.10				3.10
Fullerton	James	.10						.03							T.				1.22					T.	.08		.83	.64	1.12	T.			4.02
Garrison	Missouri														T.		.12	.89			T.		T.	T.	.18				.70	.05			1.94
Grafton ‖	Red	.14	.02																.83	.45	.18			.09	.08				.08	.51	.02		2.40
Granville	Mouse															.03		.59								.02			.39				1.03
Haley	Grand																																
Hannah	Pembina	.90				T.	T.								T.	.01		.83	.11		T.			T.	T.				.40	T.			2.25
Hansboro	Red																	.75	.50										.10	.50			1.85
Hettinger	Grand																.18	T.		T.	T.			.06	.30				.17		.17		0.88
Hillsboro	Red	.31		T.		T.									T.			.07	1.23		T.			.11	.03		.08		1.39		.04		3.26
Howard	Missouri	T.	T.					T.		T.	T.				T.	.04				T.	T.		T.	T.	.02				.27				0.33
Jamestown ‖	James	.04			T.	T.		T.			.10	.20			.02				.92	.30	.01			.15	.02		.17	.05	.90	.04			2.92
Lakota	Sheyenne	.05	T.				T.			T.	T.				T.		T.	.10	.37		.05			.10	T.	T.		T.	.50				1.17
Lamoine	Missouri	T.				T.					.10				T.		T.	T.	T.						T.				.10				0.20
Langdon	Pembina		.05	T.	T.			T.							T.			.17	.22		T.	.07				.02			T.	.35	T.		0.88
Larimore ‖	Red	.15					.02					.01								.95				.11	.07	.02			.35	.35			2.03
Lisbon ‖	Sheyenne	.25	T.	T.			.02	T.	T.			T.				T.			.25	.30				.10	.10	T.	T.	.05	2.05	.10	T.		3.22
McHenry	James	.06				T.	T.				.11							T.	.40		T.		T.	.15	T.				.70				1.42
McKinney	Mouse										.10				T.	T.		.10						T.	T.				.40				0.60
McLeod	Sheyenne		.20			.02	.05	.05			.03						.15		.61	.02					.81			.15	.41	.96	.04			2.70
Mandan	Missouri																																
Manfred	Sheyenne	.29			T.		T.			T.	.20				T.			.09	.05		.05			.02	T.				.35				1.05
Marmarth	Lit. Missouri	.05									T.				T.		.02	.05				T.	T.		.62	T.			.04				0.78
Marstonmoor	James																																
Mayville	Red	.18				.02													1.25					T.		.11		T.	.61	.60			2.77
Melville	James										.20													.65										0.85
Milnor	Red	.10				T.	T.				.10							T.	.60	.04	T.			T.	T.		.32	.51	.79				2.46
Minot ‖	Mouse		.06					T.			.10				T.	.09		.53	1.03										T.	.20			2.01
Minto	Red	.09				T.	T.											.10	1.05					.04	.03				.38	.10			1.79
Mott	Cannon Ball						T.				.02		.01				.30	.04							.26				.28				0.91
Napoleon ‖	Missouri	.20			T.						.05								.03							.10			.55	.35			1.28
New England	Cannon Ball														.18	.10	.20												T.				0.48
New Rockford	James																																
New Salem	Heart	.02								T.	T.							.60					T.	.36	.11				.35				1.44
Orange	Cannon Ball																	.27						.13	.18	T.							0.58
Oriska	Sheyenne					T.	T.			.07	T.							T.	.90	.03				.20	T.		.44	.26	.13	.12			2.15
Park River	Red	.10		T.	T.		T.								T.			T.	.80		.07			.05	.04		T.		.72	.16			1.94
Pembina ‖	Red	.18	.04			T.	T.	T.										T.	.08	.04					T.	T.			T.	.20	.08		0.62
Power	Sheyenne	.15			T.	.30									T.			*	1.70								.36	1.25	.34	T.			4.10
Ranger	Lit. Missouri																								T.				.20				0.20
Steele	Mouse	.10			T.			T.	T.		T.				T.		T.	T.							T.	.25			.32				0.67
Towner	Missouri	.10									.05				T.		.03	.68			T.			T.	.13					.50			1.49
Turtle Lake	Red	.02									T.				T.		T.	.24			.03			.17	.08				.38	.08			1.00
University	Red	.03	T.	T.		.03	T.								.01	T.		.05	1.36		.02			.07	.02		T.		.45	.03	.06		2.13
Walhalla	Pembina	.34					.42												.15	.25				.10	.15			.56	1.05	.03	.07		3.12
Walhalla	Missouri																		1.00									*	.60				1.60
Washburn	Mouse	.10													.04		T.	.44						T.	.10				.62	.09			1.39
Westhope	Missouri																																
Williston ***	Pembina							T.		T.	.01			T.	.06		T.	T.			.03			T.	.03				.30				0.43
Willow City	Knife	.27															.11	.55			.04			.04	.10				.20				1.31
Zap	Missouri														.05		.04	1.75							.26				.03				2.13
Moorhead, Minn ***	Red	.11			T.	.03	T.				.08				T.			.10	.38					.30	.06		.08	.82	.72	.27	.02		2.97

‖ Precipitation measured in the morning. Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.
* Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	50	34	34	35	40	40	30	38	51	37	58	58	75	68	70	69	69	44	45	60	51	55	62	64	65	54	46	41	46	56	..	51.5
	Minimum	33	32	25	24	26	30	20	16	18	22	14	23	31	34	36	34	39	42	25	29	34	27	34	46	44	46	30	29	34	38	..	30.5
Aplin	Maximum	58	44	46	42	49	47	32	42	48	39	58	74	70	72	78	68	58	50	57	70	68	58	72	68	67	60	50	35	40	62	..	56.1
	Minimum	33	26	24	26	25	20	10	7	20	24	12	26	25	45	34	45	44	36	22	50	33	34	45	52	40	50	28	22	26	27	..	30.3
Ashley	Maximum	57	42	56	49	39	64	30	42	49	47	59	67	77	69	72	75	73	53	50	70	66	60	70	62	71	65	59	36	41	57	..	57.6
	Minimum	36	30	26	27	24	28	16	14	20	29	18	31	36	41	37	45	48	38	22	32	39	33	46	48	48	50	30	31	31	32	..	32.9
Beach	Maximum	55	36	44	47	54	57	40	36	51	39	41	70	79	70	80	67	64	55	73	69	61	65	79	72	60	59	56	31	47	67	..	57.5
	Minimum	16	26	25	20	24	20	24	10	20	22	20	28	29	39	30	47	43	29	22	20	35	37	42	50	39	30	30	23	25	26	..	28.4
Berthold Agency	Maximum	57	42	45	44	51	46	31	44	52	42	59	65	72	74	79	69	51	50	58	69	57	59	75	68	66	60	52	32	44	66	..	56.0
	Minimum	30	24	17	26	26	20	7	14	17	24	10	21	23	38	27	46	44	36	10	42	32	38	39	52	39	38	26	23	26	27	..	28.1
Bismarck	Maximum	57	38	43	42	41	47	29	41	51	36	58	74	74	72	75	69	57	50	56	71	52	62	76	72	70	61	42	34	41	60	..	55.0
	Minimum	34	28	27	25	24	21	12	14	20	18	15	28	32	44	37	52	45	31	21	41	37	33	47	50	49	42	27	25	29	28	..	31.2
Bottineau §§	Maximum	51	32	35	40	39	40	29	38	50	31	56	18	61	70	70	67	49	46	47	68	50	49	59	58	66	52	33	33	35	59	..	48.8
	Minimum	32	24	22	20	21	20	7	8	14	23	12	23	25	32	31	41	44	35	20	28	34	28	31	39	44	37	24	22	25	28	..	26.5
Bowbells §§	Maximum	55	31	37	42	48	42	28	43	52	42	51	59	63	71	73	66	56	57	55	66	52	60	65	70	68	51	36	34	38	61	..	52.3
	Minimum	14	21	18	19	18	20	5	6	12	22	13	24	30	31	31	34	42	35	18	42	31	32	35	38	38	34	20	23	23	26	..	25.2
Carson	Maximum	58	49	47	43	48	48	40	40	52	44	58	74	73	72	76	66	55	51	58	72	60	64	72	65	67	62	49	33	44	57	..	56.6
	Minimum	32	28	17	28	27	20	12	5	6	26	13	24	27	44	30	53	44	47	18	44	36	37	46	52	44	42	30	22	22	28	..	30.1
Crosby	Maximum	48	36	39	42	46	35	28	41	49	38	57	56	63	69	75	68	63	51	63	61	58	61	73	64	63	..	..	..	..	..	..	c53.8
	Minimum	31	20	19	21	29	22	9	14	20	19	19	27	31	40	31	45	39	33	23	43	37	29	39	48	39	..	..	..	..	..	..	c29.1
Devils Lake	Maximum	50	33	31	34	37	39	27	36	49	34	55	47	60	64	68	65	50	41	44	69	46	44	62	60	67	56	38	31	37	54	..	47.6
	Minimum	33	23	24	23	22	14	8	12	22	16	15	25	29	35	31	39	41	26	20	32	30	29	38	46	17	33	21	27	27	31	..	27.3
Dickinson	Maximum	53	43	48	43	56	47	34	40	52	40	56	71	70	68	77	68	54	48	64	67	60	63	75	67	63	59	48	31	42	62	..	55.6
	Minimum	29	28	18	28	30	18	11	8	18	24	15	27	31	41	31	48	43	35	22	45	34	37	39	47	41	37	28	21	21	29	..	29.5
Donnybrook	Maximum	55	38	36	40	48	39	26	41	50	37	57	52	62	70	74	61	60	47	52	66	51	56	67	66	65	54	47	31	39	59	..	51.6
	Minimum	31	23	24	23	25	21	7	11	20	20	14	27	28	37	39	52	44	35	23	44	32	32	36	46	41	33	21	24	26	33	..	29.2
Dunseith	Maximum	49	44	32	35	35	37	25	37	48	42	54	46	59	66	68	..	64	44	45	67	56	49	58	57	65	52	38	31	36	56	..	a48.1
	Minimum	33	21	21	18	15	15	2	9	16	18	12	24	26	34	37	..	39	19	19	33	34	28	39	45	46	36	21	25	27	30	..	a25.6
Edgeley	Maximum	53	47	38	38	38	44	39	35	51	45	55	61	74	70	72	71	68	40	45	70	58	59	74	57	71	64	55	38	40	57	..	54.2
	Minimum	34	28	26	27	27	28	15	15	15	28	15	31	25	33	37	32	35	32	23	31	37	31	40	48	42	46	27	31	32	31	..	30.1
Fessenden §§	Maximum	57	33	34	37	37	40	31	44	54	32	59	53	68	75	75	65	53	42	49	72	50	50	68	70	69	58	38	32	39	57	..	51.4
	Minimum	33	27	24	24	23	24	10	10	16	24	12	22	24	30	34	37	40	37	19	24	32	31	33	39	47	46	25	24	26	28	..	27.5
Forman	Maximum	51	49	..	39	41	44	41	37	52	51	56	66	82	71	77	76	78	63	51	70	67	63	71	67	72	72	52	42	42	65	..	a58.9
	Minimum	32	29	..	28	19	29	18	15	14	29	13	26	28	38	32	46	49	33	24	39	40	30	43	49	42	28	29	35	35	35	..	a31.7
Fullerton	Maximum	52	38	36	36	38	36	27	35	50	53	25	60	73	63	70	73	72	48	43	65	50	60	75	57	70	56	45	10	40	57	..	52.4
	Minimum	34	29	26	25	20	16	16	16	18	17	15	32	32	38	36	37	48	37	24	31	38	32	45	48	44	44	30	32	33	34	..	30.9
Garrison	Maximum	55	45	40	46	47	43	30	41	51	47	58	62	64	73	75	60	52	47	54	68	60	57	71	80	66	59	51	35	38	63	..	54.6
	Minimum	32	25	25	28	25	20	9	10	20	24	15	26	25	40	30	48	44	35	21	40	30	33	40	50	39	38	28	22	26	29	..	29.3
Grafton §§	Maximum	46	33	31	34	35	37	29	36	51	35	37	45	60	59	65	70	53	40	42	59	47	45	61	57	60	63	40	33	39	51	..	46.4
	Minimum	33	25	22	20	21	27	14	14	17	27	10	20	25	25	31	32	40	37	22	25	30	25	31	35	44	41	24	24	28	30	..	26.6
Granville	Maximum	55	42	36	40	43	40	30	42	49	36	58	55	60	60	58	52	50	48	53	70	70	74	60	62	60	52	60	45	43	62	..	52.2
	Minimum	32	25	26	30	23	22	15	32	28	18	28	34	42	40	48	42	45	36	20	38	40	18	39	42	39	42	32	35	28	33	..	33.4
Hannah	Maximum	39	35	33	34	33	32	24	30	46	41	52	38	55	64	66	..	50	40	43	67	56	45	56	55	61	57	41	30	35	41	..	a44.8
	Minimum	30	18	14	18	14	12	2	10	16	15	9	24	22	28	35	..	38	28	16	26	32	18	34	41	42	35	17	21	22	23	..	a22.8
Hettinger	Maximum	45	55	..	..	58	55	57	40	51	41	52	72	71	77	62	63	52	48	58	72	62	61	69	64	62	63	49	31	45	57	..	b56.9
	Minimum	23	22	19	20	18	12	10	11	18	25	12	26	32	30	45	46	44	36	22	42	38	36	39	48	41	45	29	23	27	33	..	29.1
Hillsboro	Maximum	48	46	31	34	37	38	36	33	49	48	56	56	69	65	65	68	65	60	40	57	57	51	61	56	62	60	54	41	43	53	..	51.3
	Minimum	33	28	21	23	21	30	18	15	19	28	13	27	32	31	31	31	47	32	22	31	38	28	37	42	44	41	27	32	31	36	..	29.6
Howard	Maximum	47	33	41	43	47	39	27	41	47	43	57	61	66	69	75	67	67	50	66	65	49	63	68	67	63	57	39	30	34	62	..	52.8
	Minimum	30	20	20	21	21	20	11	12	19	20	25	26	28	38	30	40	49	30	29	24	29	30	37	50	35	28	20	19	24	30	..	27.2
Jamestown §§	Maximum	50	35	36	37	38	41	28	36	50	34	53	54	71	65	70	65	63	43	34	69	50	52	71	56	75	61	50	36	39	58	..	50.7
	Minimum	35	32	28	27	25	26	16	17	17	23	20	25	21	30	30	36	43	32	22	29	32	33	34	44	49	50	32	31	31	32	..	30.1
Lakota	Maximum	49	39	40	33	35	37	28	29	48	43	55	46	64	62	67	68	56	47	40	64	55	41	61	54	64	60	42	32	33	51	..	48.1
	Minimum	28	23	22	20	20	24	9	11	16	21	11	20	24	32	31	38	43	30	20	31	31	28	29	48	45	41	22	27	27	30	..	27.3
Lamoine	Maximum	54	44	38	35	36	41	36	34	48	46	52	60	63	68	70	68	57	44	48	70	63	60	73	70	68	59	44	32	38	58	..	52.6
	Minimum	34	25	24	24	21	22	9	8	16	19	10	26	..	32	34	46	44	35	17	33	29	32	40	46	46	43	22	24	26	25	..	a28.0
Langdon	Maximum	46	31	33	30	27	35	25	33	50	30	53	41	55	60	62	66	46	41	40	65	45	43	60	57	61	60	42	31	42	49	..	45.3
	Minimum	31	21	21	18	19	23	5	5	6	29	3	22	27	32	28	38	41	34	18	24	35	21	31	38	46	42	20	20	25	30	..	25.1
Larimore §§	Maximum	48	33	29	34	35	38	28	37	50	34	55	54	66	59	68	70	58	33	45	58	46	44	60	57	60	58	45	33	38	54	..	47.6
	Minimum	33	27	22	21	22	26	13	13	13	25	12	22	28	30	32	35	33	30	20	30	33	27	31	38	45	45	26	25	29	31	..	27.2
Lisbon §§	Maximum	50	38	36	38	41	52	28	38	53	38	53	58	75	65	75	73	75	48	46	65	50	62	70	65	70	56	45	43	45	60	..	53.7
	Minimum	32	32	24	24	18	28	18	16	17	26	12	24	29	43	36	38	43	43	24	28	33	28	36	43	43	45	30	30	34	35	..	30.4
McHenry	Maximum	51	31	31	35	32	35	28	36	50	31	55	50	62	66	67	68	61	45	45	70	55	48	65	60	66	65	39	31	35	55	..	48.9
	Minimum	30	25	24	25	28	23	10	13	25	24	13	25	26	35	32	34	43	33	20	23	30	29	35	41	46	35	21	19	30	31	..	27.6
McKinney	Maximum	57	57	40	45	51	42	40	47	54	38	60	52	64	75	75	67	54	50	53	71	52	41	65	67	68	60	40	39	40	60	..	54.1
	Minimum	28	24	25	20	26	19	9	7	18	20	14	41	26	38	26	43	45	35	19	40	23	33	36	50	58	36	31	32	27	32	..	29.2
Manfred	Maximum	59	47	38	40	39	44	32	38	53	40	56	53	63	70	73	65	57	45	49	70	60	52	69	73	67	59	50	35	38	59	..	53.1
	Minimum	33	27	25	14	24	22	10	11	20	22	13	27	25	35	32	40	43	30	20	31	32	32	39	47	45	45	23	26	28	32	..	28.5
Marmarth	Maximum	40	41	49	43	61	45	36	38	50	42	56	70	70	66	76	63	59	48	69	66	56	62	74	71	62	60	45	32	50	62	..	55.4
	Minimum	20	26	20	29	29	27	16	12	18	23	17	28	35	42	30	45	43	32	24	44	37	36	49	49	41	35	32	24	23	30	..	30.7
Minot §§	Maximum	58	37	38	43	52	45	30	41	53	30	58	55	55	80	70	63	50	46	59	69	50	53	67	70	68	59	42	32	40	65	..	52.6
	Minimum	31	27	26	25	27	22	10	10	14	25	17	29	28	36	42	38	38	28	22	38	35	35	33	45	41	32	30	23	25	29	..	29.0
Mott	Maximum	52	48	48	52	45	42	48	59	58	53	60	72	71	63	77	70	62	53	60	70	69	74	70	72	65	68	63	57	43	63	..	60.2
	Minimum	30	25	26	28	22	18	7	21	25	23	27	41	27	22	39	36	34	20	38	36	41	37	36	45	36	35	29	21	27	..	..	29.6
Napoleon §§	Maximum	55	34	44	38	39	48	29	39	51	34	56	68	76	73	75	73	65	43	55	74	52	65	76	71	70	66	46	36	38	59	..	54.9
	Minimum	32	26	22	22	17	20	10	8	9	20	11	14	38	32	31	31	43	39	16	20	30	30	31	44	45	46	25	24	28	24	..	26.3
New England	Maximum	56	34	50	45	55	53	42	42	53	59	..	76	75	72	80	63	54	70	65	50	45	61	73	71	68	57	55	39	44	63	..	a57.6
	Minimum	33	24	19	28	30	20	10	8	17	28	..	30	32	35	40	40	31	32	28	23	25	35	41	48	37	30	28	29	28	29	..	a28.9
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	46	38	46	42	47	46	32	40	52	40	57	74	75	71	76	64	53	50	57	70	52	60	72	67	65	60	41	30	42	60	..	54.2
	Minimum	29	26	23	25	21	21	9	10	19	20	13	32	40	40	38	49	42	32	17	41	33	35	43	49	48	40	27	21	25	25	..	29.8
Orange	Maximum	56	46	45	42	41	47	37	40	52	44	57	73	74	72	76	65	61	50	59	72	56	64	69	63	65	62	57	30	45	56	..	55.9
	Minimum	30	28	16	26	26	21	11	6	18	25	13	24	30	45	32	49	42	31	18	38	40	34	46	50	40	40	27	22	25	30	..	29.4
Oriska	Maximum	48	39	39	36	36	49	30	49	51	49	57	55	78	63	72	69	63	59	62	63	61	51	63	53	66	61	53	38	43	55	..	53.7
	Minimum	27	27	29	24	28	27	15	15	15	29	16	29	29	32	38	46	39	32	30	36	28	27	36	44	42	43	27	31	32	34	..	30.2
Park River	Maximum	47	42	30	32	41	23	34	36	51	67	76	58	66	62	74	73	63	48	48	63	62	44	64	57	64	65	56	33	42	52	..	52.8
	Minimum	33	24	21	20	22	28	20	21	10	25	6	24	22	29	30	28	43	31	20	32	36	25	36	44	46	45	24	28	28	30	..	27.7
Pembina §§	Maximum	43	26	34	24	33	32	29	36	50	32	38	48	54	63	70	66	52	42	48	51	48	48	67	62	70	62	39	36	42	46	..	46.4
	Minimum	34	24	18	18	20	27	10	10	21	32	12	22	31	33	29	33	42	34	12	33	36	28	36	42	44	41	22	28	28	33	..	28.0
Power	Maximum	53	36	34	42	40	41	34	42	43	42	49	52	75	65	73	66	70	..	..	46	62	64	59	67	65	43	40	42	59	66	..	b52.5
	Minimum	31	30	24	24	16	22	20	11	16	18	20	22	32	40	36	40	42	..	..	24	33	30	40	39	40	31	33	34	35	37	..	b29.3
Towner	Maximum	55	45	36	42	43	42	31	39	51	47	57	56	63	71	70	68	51	48	50	70	62	52	64	62	67	65	54	34	39	61	..	53.1
	Minimum	33	29	25	24	24	24	10	13	21	22	13	27	26	37	29	42	45	38	32	35	35	32	40	47	48	40	25	26	28	32	..	30.1
Turtle Lake	Maximum	56	52	39	38	42	44	34	39	52	48	57	61	65	72	74	62	58	51	55	70	53	57	73	66	69	81	60	33	37	63	..	55.5
	Minimum	33	26	25	24	23	21	10	11	20	24	15	24	25	41	29	47	44	31	18	37	31	34	41	45	40	41	25	24	28	28	..	28.9
University	Maximum	47	41	30	33	35	38	28	35	49	37	56	47	63	55	64	70	60	46	39	56	52	48	60	56	62	58	44	38	41	52	..	48.0
	Minimum	34	23	22	22	21	21	17	15	20	17	13	28	32	30	32	36	46	32	24	32	34	28	41	46	47	40	26	32	30	32	..	29.1
Wahpeton §§	Maximum	45	32	32	34	32	34	25	28	49	36	54	62	75	66	67	70	69	42	38	57	47	57	62	62	62	55	40	39	45	55	..	49.0
	Minimum	31	31	21	21	21	19	19	14	15	28	13	22	28	35	33	36	47	42	21	27	33	27	40	43	40	40	30	38	33	36	..	29.3
Washburn	Maximum	57	52	42	47	41	52	30	40	..	52	57	69	70	76	78	71	58	50	56	72	63	57	74	71	70	61	52	34	41	62	..	a57.1
	Minimum	32	27	26	27	26	25	12	13	..	23	17	30	29	44	33	53	44	39	22	42	31	34	40	51	44	46	27	24	28	29	..	a31.7
Westhope	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Williston	Maximum	53	32	45	42	50	42	28	13	50	34	61	65	70	70	77	68	62	50	68	65	51	63	76	71	63	56	39	30	39	67	..	54.3
	Minimum	30	23	20	25	28	22	12	14	24	23	21	30	34	46	37	48	41	31	28	41	34	43	44	51	44	34	24	23	26	34	..	31.2
Willow City	Maximum	52	32	34	38	41	43	28	38	50	41	51	45	61	69	71	66	51	46	48	69	55	53	60	60	65	63	48	31	36	59	..	50.1
	Minimum	32	23	24	25	24	23	8	14	21	22	12	16	21	35	29	40	44	34	20	11	35	23	34	44	45	29	21	25	27	31	..	26.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


No Precipitation.
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
A.

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JUL 1914

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MAY, 1914

BY

ORRIS W. ROBERTS
SECTION DIRECTOR



MINNEAPOLIS, MINN.
WEATHER BUREAU OFFICE
JUNE 26, 1914.

Departure of the Mean Temperature from the Normal, May, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., MAY, 1914. No. 5.

GENERAL SUMMARY.

The weather conditions throughout the State were favorable for the seeding, germination and growth of plant life, especially all kinds of small grain. In some parts of the State the heavy rains interfered more or less with farm work, especially during the first week. The temperature was above the normal, there was somewhat less than the usual sunshine, and the precipitation was slightly deficient. The precipitation was quite uniformly distributed throughout the month, but unevenly geographically. As a result of the favorable weather conditions the ranges are covered with more grass than for many years, and crop prospects during the past decade were never better than at the close of the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.01 inches. The highest was 30.62 inches at Bismarck, Burleigh County, on the 12th; the lowest was 29.39 inches at Devils Lake, Ramsey County, on the 25th.

TEMPERATURE.

The mean temperature for the State was 55.2°, or 2.1° above the normal, and 4.0° higher than the normal for May, 1913. The highest monthly mean reported was 58.6° at Amenia, Cass County; the lowest was 51.5° at Howard, Williams County. The highest temperature reported was 95° at McKinney, Renville County, on the 24th; Minot, Ward County, on the 30th, and Park River, Walsh County, on the 27th; the lowest was 16° at McLeod, Ransom County, on the 16th. The greatest monthly range was 76° at McKinney, Renville County; the least was 53° at Steele, Kidder County. The greatest daily range was 64° at McLeod, Ransom County, on the 16th. The second decade was the coldest, and the last decade the warmest. Generally the highest temperature was recorded on the 30th, and the lowest on the 12th.

HUMIDITY.

The average relative humidity, as determined from the 8 a. m. and 8 p. m. reports of four recording stations, was 64 per cent.

PRECIPITATION.

The average precipitation for the State was 2.12 inches, or 0.45 inch below the normal, and 0.44 inch more than the average for May, 1913. The greatest monthly amount reported was 4.21 inches at Turtle Lake, McLean County; the least was 0.86 inch at Howard, Williams County. The greatest amount recorded in any twenty-four consecutive hours was 1.84 inches at Bismarck, Burleigh County, on the 4th-5th. The average depth of snowfall was 1.0 inch; the greatest fall reported was 14.0 inches at Epping, Williams County. The greater portion of the stations reported no snow whatever. The average number of days with 0.01 inch or more of precipitation was eight. Stormy periods were as follows: 2d to 7th, inclusive; 10th-11th; 17th to 20th, inclusive; 23d to 25th, inclusive, and the 28th-29th. The heaviest precipitation occurred during the period 4th to 6th, inclusive, and in a few instances was accompanied by high wind and hail, although the damage from both causes was slight.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.6 miles. The greatest wind movement was 9,157 miles at Bismarck, Burleigh County, an average of 12.3 miles an hour; the least was 6,822 miles at Moorhead (Minn.) an average of 9.2 miles per hour. The maximum velocity for a period of five minutes was at the rate of 49 miles per hour from the west at Bismarck, Burleigh County, on the 5th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was a slight deficiency in sunshine; the average number of clear days was 16, partly cloudy 8, and cloudy 7.

MISCELLANEOUS.

The stage of water in the rivers of the State was slightly below the normal, although the deficiency during May was not as great as during the month preceding. Local hail, wind and rain storms did small damage, but the loss was in no instance large.

ERRATA.

January, 1914.—Wahpeton, lowest temperature should be −18° on the 26th.

February, 1914.—Bottineau, number of days with 0.01 or more precipitation should be 4.

March, 1914.—Grafton, lowest temperature should be −13°; Hillsboro, mean maximum should be 35.6°, and monthly mean 26.4°.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	46.6	−6.5	95	13	2.21	−0.36
1893	52.0	−1.1	97	19	1.61	−0.96
1894	54.6	+1.5	98	23	1.51	−1.06
1895	54.4	+1.3	101	15	2.48	−0.09
1896	56.9	+3.8	103	22	4.89	+2.32
1897	55.4	+2.3	97	16	0.71	−1.86
1898	52.7	+1.6	92	14	1.98	−0.59
1899	50.6	−2.5	91	16	3.49	+0.92
1900	59.2	+6.1	106	15	0.69	−1.88
1901	60.0	+6.9	99	19	0.31	−2.26
1902	55.9	+2.8	94	24	3.57	+1.00
1903	54.3	+1.2	96	11	3.08	+0.51
1904	54.2	+1.1	93	20	1.76	−0.81
1905	50.1	−3.0	88	10	3.05	+0.48
1906	50.8	−2.2	99	11	4.63	+2.06
1907	44.0	−9.1	84	6	1.11	−1.46
1908	50.8	−2.3	88	9	2.97	+0.40
1909	51.0	−2.1	98	5	4.29	+1.72
1910	50.7	−2.4	94	10	0.96	−1.61
1911	55.0	+1.9	99	6	2.88	+0.31
1912	54.2	+1.1	90	16	4.52	+1.95
1913	51.2	−1.9	100	11	1.68	−0.89
1914	55.2	+2.1	95	16	2.12	−0.45

Climatological Data for May, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of day—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure, from the normal.	Greatest in 24 hours.	Snowfall unmelted.	With .01 or more precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	58.6	+4.1	89	25	28	12	41	1.04	−2.05	0.46	0	4	16	6	9	sw.	C. E. Wood
Aplin	Oliver		7	55.0		86	30	20	12	49	2.48		1.30	2.0	7	16	7	8	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	55.7	+2.2	84	30	27	12	44	1.74	−0.42	0.41	0	8	15	10	6	nw.	R. C. Miles
Beach	Golden Valley	2,576	8	53.8		87	27	25	13	52	2.02		0.70	0	10	16	9	16	nw.	D. J. Steiner
Belfield	Stark	2,583	3																	E. W. Russell
Berthold Agency	McLean	2,082	20	54.2	−0.1	86	30	19	12	51	3.26	+0.51	1.52	2.0	8	17	9	5	se.	C. W. Hall
Bismarck	Burleigh	1,674	40	55.6	+0.4	87	30	27	12	46	3.61	+1.11	1.84	T.	10	15	9	7	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	54.0	+2.8	84	30	23	14	50	2.35	+0.07	1.10	0	11	12	10	9	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	5.31		86	23	25	12	48	2.97		0.77	0	9	22	0	9		G. H. Phelps
Buford	Williams	1,944	35	55.4	+1.2	85	30	25	12	44	1.36	−1.07	0.50	0	9	9	13	9	nw.	C. H. McCune
Cando	Towner	1,488	13																	E. T. Judd
Carson	Morton		2	53.7		86	30	22	12	54	3.08		0.80	0	8	19	6	6	n.	D. L. Basquin
Colgate	Steele	1,177									1.11		0.43	0	8	17	9	5	sw.	H. P. Rice
Crosby	Divide	1,954	7	57.7		84	27	25	12	42	1.93		1.73	0	3					H. C. Kaschau
Devils Lake	Ramsey	1,482	10	54.8	+2.1	83	30	30	14	40	1.42	+0.78	0.43	0	9	15	10	6	s.	U. S. W. B.
Dickinson	Stark	2,543	22	53.3	+0.7	85	*24	23	12	51	2.61	+0.03	0.77	5.0	15	12	11	8	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	c54.0	+4.1	c85	*24	c22	*12	c53	2.14	−0.43	2.00	T.	3				nw.	C. J. DeVore
Dunseith	Rolette		18	53.3	+0.9	81	*27	22	14	48	1.96	+0.27	1.04	0	9	17	6	8	nw.	C. E. Goodsell
Eckman	Bottineau		9	53.6		87	30	20	12	52	2.26		1.25	0	8	18	8	5	n.	J. Nussbaum
Edgeley	LaMoure	1,468	13	57.0	+3.4	86	30	28	12	44	1.51	−1.23	0.34	0	9	5	15	11	nw.	O. A. Thompson
Energy	McLean		2								3.64		1.50	0	6	17	5	9	se.	N. W. Solenberger
Epping	Williams	2,224	6								1.27		0.75	14.0	5	20	3	8	w.	M. E. Uggen
Fessenden	Wells	1,610	2	54.0		84	30	21	12	46	2.85		1.02	0	8	18	6	7	sw.	G. T. Seymour
Forman	Sargent	1,249	22	54.8	−0.7	85	24	26	12	45	2.04	−0.86	1.20	0	7				nw.	A. Maltby
Fullerton	Dickey	1,439	16	55.8	+2.3	83	30	28	12	38	2.01	−1.20	0.76	T.	9	16	6	9	s.	F. O. Alin
Garrison	McLean	1,901	19	54.0	+1.0	83	30	21	12	43	3.24	+0.88	1.30	16.0	9	11	15	5	nw.	G. L. Robinson
Goodall	McKenzie			d54.2		e84	24	e25	*12	41	2.77		1.53	0	6					C. H. Layman
Grafton	Walsh	827	22	56.0	+2.8	88	29	24	14	50	1.50	−0.73	0.34	0	8	17	6	8	s.	A. R. T. Wylie
Granville	McHenry	1,504	7	57.2		84	*24	25	12	34	2.73		1.07	0	6	19	7	5	s.	W. A. Christianson
Haley	Bowman	2,260	6																	L. Clark
Hannah	Cavalier	1,568	9	52.6		81	*17	17	14	43	2.96		1.51	0	4	13	12	6	nw.	J. Moffatt
Hansboro	Towner	1,597	6	57.6		85	27	21	14	47	2.15		1.25	0	7	17	11	3	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6	52.5		88	31	22	13	46	1.11		0.45	0	9	17	0	14	se.	W. R. Lanxon
Hillsboro	Traill	901	8	57.2		83	27	27	12	41	1.86		0.89	0	10	19	8	4	n.	F. E. Mayall
Howard	Williams	2,275	5	51.5		81	16	23	12	42	0.86		0.39	1.0	4	9	13	9	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	57.6	+4.0	91	28	26	12	52	1.53	−1.33	0.42	0	10	16	4	11	nw.	T. Pettigrew
Lakota	Nelson	1,579	13	53.1	+3.0	83	30	19	14	46	1.74	−0.76	0.64	0	8	11	16	4	sw.	C. R. Pettes
Lamoine	Kidder		6	52.9		83	*25	22	12	46	1.32		0.76	1.0	3	11	13	7	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	53.2		84	28	20	*12	44	1.44		0.56	0	7	24	4	3	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	55.9	+3.2	83	25	25	14	42	2.08	−0.30	0.67	0	6	19	6	6	nw.	J. M. Freeman
Lisbon	Ransom	1,091	10	58.2	+5.7	89	25	29	*8	47	1.32	−2.45	0.42	0	8	19	2	10	nw.	W. S. Adams
McHenry	Foster	1,509	4	54.5		85	27	25	*12	44	2.97		1.50	T.	5	23	5	3	s.	P. E. Truden
McKinney	Renville	1,640	20	54.5	+2.4	95	24	19	12	54	2.07	−0.11	1.17	0	3	9	18	4	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	57.2		84	25	16	16	64	1.63		0.62	0	9	24	6	1	s.	M. Reinholt
Mandan	Morton	1,644	1	55.2		85	30	26	12	45	3.52		1.65		10					M. Pfaender
Manfred	Wells	1,605	11	55.2	+4.5	86	27	22	12	48	2.60	−0.12	0.54	0	10	18	5	8	nw.	P. B. Anderson
Marmarth	Billings		5	52.4		82	*24	23	12	49	2.31		0.60	4.0	11	14	6	11	nw.	S. P. Grane
Marstonmoor	Stutsman		5																	H. H. McCumber
Mayville	Traill	975	18	58.0	+2.9	88	27	25	12	46	2.98	+0.03	1.01	0	10	19	4	8		W. C. Gould
Melville	Kidder	1,590	16	55.0	+2.3	83	27	23	*12	45	2.56	−0.04	1.30	0	4	12	13	6	nw.	J. P. Kidder
Milnor	Sargent	1,097	2								3.04		1.58	0	6	10	10	11	nw.	Hj. Edman
Minot	Ward	1,557	18	55.6	+3.3	95	30	23	12	55	2.43	+0.32	1.53	0	8	21	4	6	w.	B. L. Faris
Minto	Walsh	820	21	56.4	+3.0	86	27	23	14	45	1.15	−1.34	0.44	0	6	17	7	7	se.	S. S. Marsh
Mott	Hettinger	2,424	7	54.4		88	30	25	*12	44	1.52		0.70	0	9	14	9	8	nw.	O. H. Opland
Napoleon	Logan	1,955	22	54.1	+1.3	85	*24	22	12	48	2.62	+0.16	1.00	1.0	11	11	7	13	s.	C. J. Hoof
New England	Hettinger	2,400	20																	J. M. Connolly
New Rockford	Eddy	1,531	3																	J. V. N. Sundberg
New Salem	Morton	2,163	9	53.7		87	30	25	12	46	3.06		1.05	10.0	9	16	7	8	se.	J. Christiansen
Orange	Adams	2,586	5	53.2		88	30	25	12	52	1.66		0.52	0	7	15	7	9	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	57.4		91	27	27	14	46	0.98		0.24	0	9	19	18	3	n.	J. J. Taylor
Park River	Walsh	998	10	57.6	+5.9	95	27	27	*10	50	1.49	−0.91	0.28	0	10	12	14	5	nw.	G. M. Hargrave
Pembina	Pembina	789	40	58.4	+6.0	91	27	26	10	45	1.55	−1.08	0.90	0	6	19	4	8	w.	C. W. Shumaker
Power	Richland	1,020	22	56.4	+1.9	b87	26	28	12	43	1.62	−1.20	0.65	0	5	14	7	10	nw.	J. A. Power
Ranger	Billings		2								2.25		1.03	3.2	7	22	4	5	nw.	R. E. Sheriff
Steele	Kidder	1,857	17	56.7	+2.8	84	30	31	*11	34	1.72	−0.67	1.72	0	9	13	14	4	s.	H. S. Wood
Towner	McHenry	1,482	12	58.0	+4.8	84	*27	22	12	45	2.84	−0.07	1.31	0	6	8	17	6	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	54.5		83	30	23	12	45	4.21		2.07	T.	10	17	5	9	nw.	E. G. Ranum
University	Grand Forks	830	22	55.8	+2.1	85	25	25	12	42	2.21	−0.35	1.08	0	10	17	10	4	nw.	U. S. W. B.
Wahpeton	Richland	962	20	56.8	+1.0	87	26	26	12	37	1.99	−0.81	0.80	0	9	16	7	8	nw.	F. E. Smith
Walhalla	Pembina	966	7								2.65		1.41	0	3					I. DeL. Lee
Washburn	McLean	1,734	16																	K. Klein
Westhope	Bottineau	1,508	8	54.7		88	30	25	14	55	2.06		1.00	0	6	16	10	5	se.	C. M. Condit
Williston	Williams	1,875	35	54.6	+0.3	85	27	23	12	39	1.19	−1.07	0.56	0.5	8	11	10	10	se.	U. S. W. B.
Willow City	Bottineau	1,471	22	53.6	+1.7	84	*27	21	12	56	2.23	+0.23	0.91	0	9	15	14	2	nw.	M. A. Ostby
Zap	Mercer		1	54.0		85	30	23	12	52	2.51		1.08	6.0	6	18	5	8	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	57.4	+2.6	88	25	28	12	38	1.47	−1.48	0.36	0	13	19	8	4	sw.	U. S. W. B.
Averages				55.2	+2.1	95	*24	16	16	64	2.12	−0.45	1.84	1.0	8	16	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for May, 1914.

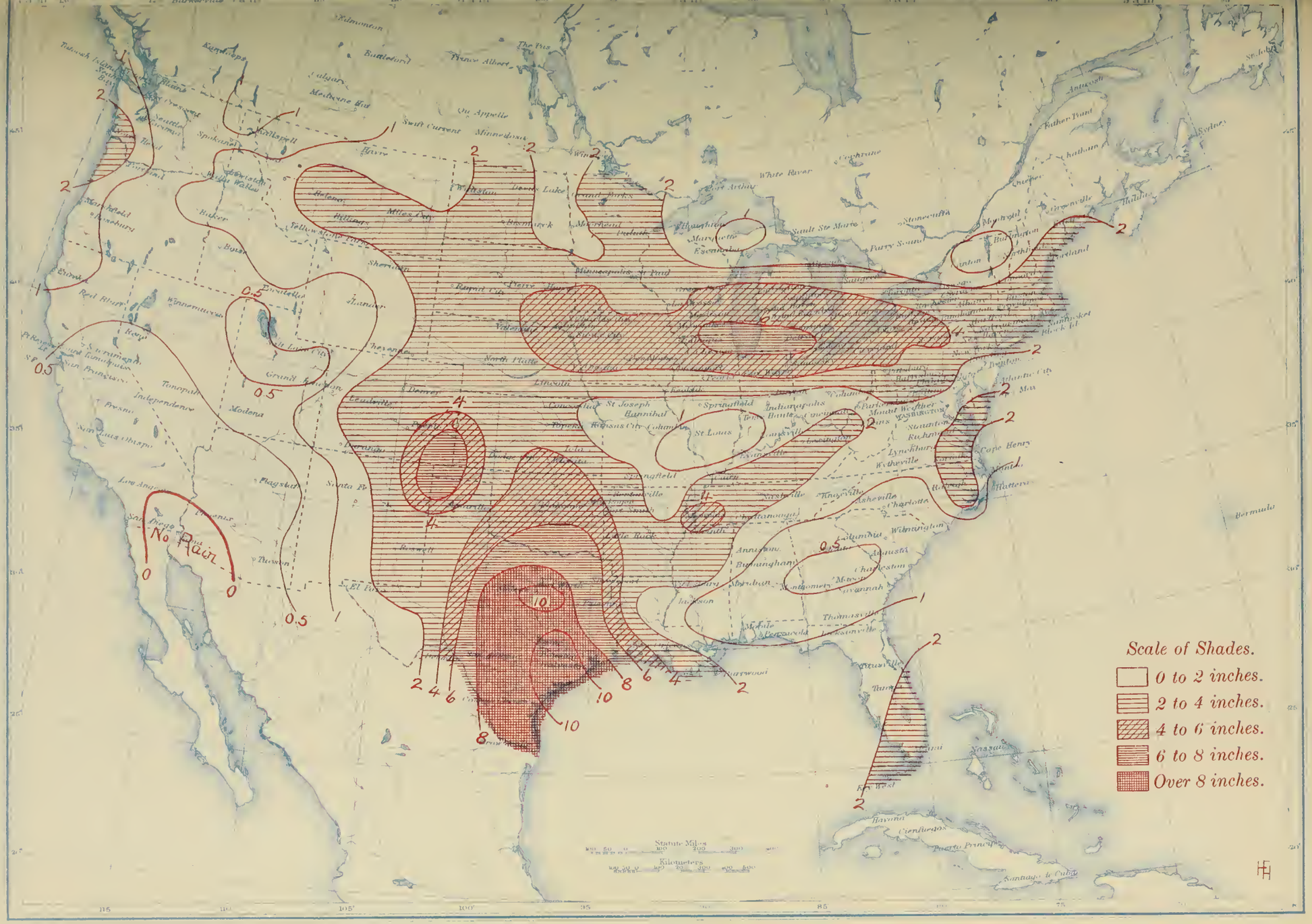
Stations.	Watershed.	Day of month.																													Total.
		1	2	3		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red			T.	T.		.18	.14				T.								T.						.26				.46		T.	1.04
Aplin	Knife		T.		.15	1.30	.39	T.			.25	.25								T.		T.	T.	T.	T.	.10			.04			2.48
Ashley	Missouri			.22		.15	.26				T.								.34					.17	.13			.41	.06			1.74
Beach	Lit. Missouri		T.		.15	.01	.05			.10	.70	.15							.13		.04		.07	.02								2.02
Belfield	Heart																															
Berthold Agency	Missouri		.02		.09	1.52	.75	.04			.27							.14					T.	T.	.43			T.				3.26
Bismarck ***	Missouri		T.	.06	1.33	.68	.07			.02	.77	.23							.01	T.			T.				.02		.42				3.61
Bottineau ‖ ‖	Mouse			.01		1.10	.17	.07	T.		.09	T.							.39	.14	.22	.02				.06			.08			2.35
Bowbells ‖ ‖	Mouse				.18	.77	.68	.50		.06									.07	.05						.31			.35			2.97
Buford	Missouri				.05	.50	.10				.20	.20						.18		.04					.05			.04				1.36
Cando	Sheyenne																															
Carson	Heart				.42	.80	.30				.80	.22								.20			T.	.07				.27				3.08
Colgate	Sheyenne		.03	.19		.10	.06	T.		.05		.03							T.							T.		.43	.22			1.11
Crosby	Mouse									*	1.73							T.														
Devils Lake ***	Sheyenne		.34	.04		.25	.19			.01									.08	.02							.06		.43	T.			1.42
Dickinson	Heart		T.		.04	.69	.11	.01		.02	.77	.43						.02	.02		.04		.04	.22	.02		.13		.05				2.61
Donnybrook	Mouse				T.	*	2.00			T.									.14						T.							2.14
Dunseith	Mouse			.03		1.04	.19			.12								.05		.15	.14					.02			.24			1.96
Ekman	Mouse			.06	.30	1.25	.19											.18	.10	.13		T.							.05			2.26
Edgeley	James			.19		.08	.11	.22			.27	.19								.03										.34		.08	1.51
Energy	Missouri		T.		.72	1.50	.85				.36									.04							T.		.17				3.64
Epping	Missouri				.75	.25												.16	.08						.03							1.27
Fessenden ‖ ‖	James			.41	T.	.28	.27	.15											.11	.02	1.02									.59			2.85
Forman	Sheyenne			.45		.06	.02			.01																.35			1.20	.15			2.04
Fullerton	James		T.	.28		.07	.08	.21		.06	.12	.07												T.		.76			T.	.36			2.01
Garrison	Missouri		.12		.16	1.30	.78	T.											.06	T.	.10				.43		.04		.25				3.24
Goodall	Missouri				.47	1.53	.73	.02											.01														2.77
Grafton ‖ ‖	Red			.26	.02		.34	.06			.18									.18	.19								.27			1.50
Granville	Mouse					.95	1.07	.17											.08	.28									.18				2.73
Haley	Grand																															
Hannah	Pembina			T.		.52	.03			T.										T.						1.51	T.		.80				2.96
Hansboro	Red					.30	.10			.10										.25					.10			1.25	.05			2.15
Hettinger	Grand					.23	.02	T.				.45	.06						.17		.06		.05	.02					.05			1.11
Hillsboro	Red		.02	.21		.09	.06	.05		T.										.26	.05				.12			.11	.89			1.86
Howard	Missouri			.39	.01	.32	.14	T.			T.							T.	T.	T.	T.	T.		T.	T.	T.			T.				0.86
Jamestown ‖ ‖	James			.25		.07	.06	.19		.07	.15									.03					T.	.17			.42		.12		1.53
Lakota	Sheyenne		.13	.10		.28	.18												.64	.11							T.		.25	.05			1.74
Lamoine	Missouri				T.	.10	.76				T.	T.							T.	T.							T.		T.	.46			1.32
Langdon	Pembina			.03	.13	.13					.14									.06						.56		T.		.39			1.44
Larimore ‖ ‖	Red			.36			.16	.11												.42	.36								.67			2.08
Lisbon ‖ ‖	Sheyenne			.10	.05	.05		T.		T.	.05	.42	T.													.05			.30		.30	1.32
McHenry	James		.35			.40	.30													1.50									.42				2.97
McKinney	Mouse				.85		1.17											.05															2.07
McLeod	Sheyenne		.02	.18			.01	.11			.15	.01														.62			.35	.18			1.63
Mandan	Missouri			.05		1.65	.26	.02			.62	.33	.05															.02	.01		.51			3.52
Manfred	Sheyenne		.32	.06		.33	.54	.04												.25	.41							.04		.54	.07			2.60
Marmarth	Lit. Missouri		T.		T.	.21		.03		.02	.60	.42								.53		.16		.05		.01		.20		.08				2.31
Marstonmoor	James																															
Mayville	Red		.16	.20		.10	.11	.03											.06	1.01	.12					.05			1.14				2.98
Melville	James						1.30	.10		T.										.54								T.		.62				2.56
Milnor	Red		T.	.26		.11	T.				T.															.49			1.58	.21		.39	3.04
Minot ‖ ‖	Mouse				T.	1.53	.50	.07		T.									.07	.08	.03					.08				.07			2.43
Minto	Red		.05			.44	.06												.06	.22							T.		.32				1.15
Mott	Cannon Ball				.26	.32	.23				.70	.22							.04						.06		.04		.05				1.92
Napoleon ‖ ‖	Missouri	.05		.18		.20	.14	.20		.06	.02	.68													.01		.08			1.00			2.62
New England	Cannon Ball																															
New Rockford	James																															
New Salem	Heart				.09	1.05	.60	.04			.67	.37							.01	.04			T.	T.				T.		.19				3.06
Orange	Cannon Ball				.52	.30	.02				.24	.28											T.	.17	.13								1.66
Oriska	Sheyenne		.08	.24		.10	.03	.01		T.										.05						.07			.21		.19		0.98
Park River	Red		.16	.08		.20	.06	.22		.08									.33	.06	.02									.28			1.49
Pembina ‖ ‖	Red			T.	T.		.12	T.			T.									.08	.02					.90		.01		.42			1.55
Power	Sheyenne			.22			.15			T.									T.							.32			.65		.28		1.62
Ranger	Lit. Missouri		T.		.12	.14	.10				1.03	.44						T.	.24				T.		.18								2.25
Steele	Mouse		.02	.32		.10	.17	.04			.27	.28							T.					T.	T.				.40	.12			1.72
Towner	Missouri					1.31	.66			T.									.53	.05						.05			.24				2.84
Turtle Lake	Red			.07	.26	2.07	.14	.03			T.	.06								1.08							.07		.41	.02			4.21
University	Red		.40	.02		.23	.13			T.									.10	.17						.06	.01	.01	1.08				2.21
Walhalla	Pembina				.25		.09	.06				.02	T.							.12	.04					.45				.80		.16	1.99
Wallalla	Missouri									1.41															.75			.49				2.65
Washburn	Mouse																															
Westhope	Missouri			T.	.22	1.00	.15			.23									.08	.38													2.06
Williston ***	Pembina			T.	.12	.56	.07				.03	.01						.05	.23	T.	T.			T.	.12		T.		T.				1.19
Willow City	Knife			.05	.14	.91	.07			T.									.06	.08	.66	.06							.20				2.23
Zap	Missouri				.20	1.08	.19				.31	.69															.04						2.51
Moorhead, Minn ***	Red		.12	.10		.16	.15	.04		.06		T.								.04	.04				.02	.18			.35	.01	.20		1.47

‖ Precipitation measured in the morning. Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.
* Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	70	66	61	71	55	48	55	70	80	50	55	63	70	64	71	80	82	75	81	84	76	76	70	85	89	86	88	83	80	84	84	72.6
	Minimum	43	45	50	46	51	34	38	33	50	32	37	28	32	29	30	44	52	57	63	56	46	40	46	52	60	52	46	50	47	45	45	44.5
Aplin	Maximum	70	68	70	58	49	36	52	70	77	55	52	55	62	64	75	75	82	73	78	72	68	72	68	84	78	75	84	74	78	86	78	69.0
	Minimum	40	42	50	46	32	30	32	30	47	31	28	26	26	28	42	47	50	55	58	44	50	36	50	54	50	47	43	52	40	37	38	41.1
Ashley	Maximum	67	67	59	64	60	47	51	64	79	74	47	56	64	63	69	69	74	76	77	78	70	66	54	79	77	75	80	73	71	84	78	68.1
	Minimum	42	50	48	45	40	32	36	32	48	36	35	27	28	32	37	38	49	52	55	51	68	37	47	50	56	48	40	50	42	40	50	43.3
Beach	Maximum	62	66	74	70	44	40	50	77	77	58	45	52	58	66	75	79	78	74	79	67	65	70	60	80	78	74	87	76	76	85	82	68.5
	Minimum	37	40	40	40	32	30	31	41	46	32	27	27	25	30	40	47	46	48	46	45	44	34	49	50	44	50	43	47	31	39	30	39.1
Berthold Agency	Maximum	73	68	73	63	49	37	52	71	76	60	54	57	64	65	71	77	83	74	81	67	70	73	66	84	77	74	85	72	76	86	81	69.6
	Minimum	40	42	44	43	30	30	32	26	45	31	31	19	24	30	41	46	50	54	45	44	46	34	42	55	47	48	38	50	30	35	35	38.9
Bismarck	Maximum	72	62	67	71	44	41	53	68	79	42	52	55	63	63	74	75	78	80	79	76	69	72	64	79	80	76	84	73	77	87	79	68.8
	Minimum	40	47	49	41	34	33	35	30	42	32	33	27	29	33	40	48	51	56	51	54	47	40	52	54	54	50	41	47	40	41	49	42.5
Bottineau §§	Maximum	74	75	64	63	50	51	57	67	65	50	51	60	63	60	77	77	81	71	73	67	67	66	69	82	80	74	83	74	74	84	75	68.5
	Minimum	32	39	49	42	43	36	32	29	37	29	30	24	29	23	35	44	48	52	45	49	45	40	40	51	52	50	37	56	33	34	44	39.6
Bowbells §§	Maximum	76	78	71	50	41	36	56	69	67	41	50	60	67	60	65	72	80	68	73	71	72	65	86	75	78	74	82	65	75	80	78	67.1
	Minimum	32	37	44	41	36	30	30	30	34	28	27	25	29	28	33	42	45	48	47	41	41	34	38	57	51	57	43	59	37	48	36	39.1
Carson	Maximum	61	71	68	68	48	42	52	68	[s]	58	50	58	60	62	72	72	77	76	79	70	66	69	56	82	76	72	80	72	75	86	76	67.7
	Minimum	47	40	49	39	33	30	33	26	45	33	29	22	24	29	42	48	48	55	46	47	48	34	50	53	48	44	36	49	37	32	34	39.7
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	58	65	67	75	82	75	67	75	68	69	65	67	82	79	80	84	79	73	82	81	[k]73.6
	Minimum	..	..	..	..	..	..	..	..	..	..	..	25	32	29	39	49	51	49	46	44	39	43	43	51	50	43	47	49	32	37	39	[k]41.8
Devils Lake	Maximum	70	64	59	66	54	46	54	66	72	49	50	58	61	59	71	75	80	73	72	75	66	64	69	81	81	76	83	81	72	83	73	67.8
	Minimum	38	45	45	44	35	34	35	34	32	28	30	23	31	23	37	47	50	54	48	50	49	42	46	54	57	52	48	49	42	48	45	41.8
Dickinson	Maximum	72	70	70	65	44	38	47	72	74	62	44	51	59	64	73	74	80	73	79	73	65	69	56	85	75	72	82	70	74	85	77	67.5
	Minimum	35	45	42	43	32	30	32	28	48	32	27	23	24	30	34	39	47	51	47	45	47	34	49	52	45	51	40	52	35	34	38	39.1
Donnybrook	Maximum	73	75	65	65	46	..	..	66	64	52	49	57	62	61	75	79	77	66	73	65	65	64	68	85	78	74	85	76	74	..	70	[c]68.2
	Minimum	35	43	42	40	32	..	..	29	42	28	28	22	30	24	22	47	50	48	49	50	43	35	39	55	51	54	51	51	34	..	44	[c]39.9
Dunseith	Maximum	71	73	61	66	53	50	56	64	66	48	50	59	61	59	71	75	79	71	73	68	64	62	68	80	79	72	81	76	70	81	71	67.0
	Minimum	30	38	49	41	40	35	34	28	33	28	29	25	38	22	35	45	47	52	48	52	45	42	36	52	53	49	35	50	38	33	45	39.6
Edgeley	Maximum	71	65	63	65	52	41	54	65	83	74	49	55	64	59	74	72	77	77	80	78	72	74	68	83	85	82	84	80	75	86	80	70.5
	Minimum	37	48	49	44	39	34	36	33	49	33	32	28	33	57	31	40	46	51	55	52	45	40	49	52	58	53	42	47	43	42	46	43.4
Fessenden §§	Maximum	70	60	59	67	45	46	56	66	76	46	51	57	65	60	73	74	79	74	76	71	68	69	68	80	80	76	83	80	73	84	75	68.0
	Minimum	33	44	47	41	37	32	35	30	38	29	32	21	30	25	28	42	50	53	44	50	50	39	44	51	53	47	41	52	37	38	43	39.9
Forman	Maximum	69	65	58	..	67	47	56	68	84	79	54	61	66	67	77	77	79	80	83	82	76	76	71	85	85	..	83	78	73	84	82	68.1
	Minimum	42	47	55	..	41	35	38	29	49	34	38	26	31	33	34	45	51	55	60	55	51	37	52	54	56	..	41	52	43	47	52	41.4
Fullerton	Maximum	68	62	60	62	53	45	54	65	82	47	49	54	63	59	72	72	76	77	79	78	78	74	68	82	81	79	80	77	73	83	73	68.5
	Minimum	39	49	49	45	39	35	37	32	44	34	34	28	31	30	31	40	47	53	55	48	46	42	50	52	59	50	46	50	43	45	49	43.1
Garrison	Maximum	70	67	68	61	47	35	49	66	74	55	51	57	68	62	72	74	79	74	78	69	68	66	67	80	76	72	82	70	75	83	77	67.5
	Minimum	38	42	50	43	31	30	32	29	45	29	31	21	29	28	36	45	50	61	56	46	47	35	47	53	48	50	49	40	38	40	40	40.6
Grafton §§	Maximum	71	70	59	67	60	53	59	67	60	54	55	63	62	62	73	80	84	73	69	78	68	61	73	81	85	79	86	83	88	86	76	70.6
	Minimum	33	45	48	49	51	35	38	29	40	28	28	26	35	24	26	41	46	51	50	49	47	37	34	46	59	53	40	46	44	63	45	41.5
Granville	Maximum	72	72	66	57	46	48	57	62	70	68	64	48	54	60	65	78	81	72	74	75	66	70	68	84	76	84	80	79	82	82	80	69.0
	Minimum	38	48	40	43	34	34	33	42	48	50	42	25	32	26	35	48	48	41	46	48	48	52	54	61	58	62	54	60	58	48	45.3	
Hannah	Maximum	70	76	64	70	58	52	57	65	56	49	50	60	59	60	61	70	81	72	75	74	70	71	70	81	76	77	80	78	70	75	80	68.3
	Minimum	28	44	42	42	35	29	30	28	32	24	25	19	25	17	25	41	43	50	48	47	40	31	29	54	59	47	45	38	39	43	45	37.0
Hettinger	Maximum	57	69	61	74	58	40	43	52	76	74	56	45	51	58	64	73	74	79	74	86	67	68	59	57	85	78	75	82	65	77	88	66.6
	Minimum	31	45	40	39	32	32	30	28	43	38	24	25	22	26	38	43	45	50	51	46	44	35	48	45	50	42	40	54	29	33	42	38.4
Hillsboro	Maximum	67	67	59	67	66	52	56	64	73	65	54	59	65	63	71	77	80	78	80	78	75	70	71	80	87	82	83	82	73	82	82	71.2
	Minimum	36	44	50	47	47	36	38	34	42	31	36	27	34	28	30	43	48	52	63	55	46	39	42	46	57	51	46	52	48	45	49	43.3
Howard	Maximum	73	74	71	68	42	36	49	70	68	49	49	50	63	64	75	81	72	77	79	66	67	65	67	77	77	72	65	62	62	67	78	65.9
	Minimum	41	37	47	40	32	28	30	30	43	29	27	23	25	28	35	45	52	49	47	39	34	38	42	50	38	40	35	40	32	38	36	37.1
Jamestown §§	Maximum	71	61	61	67	52	47	55	67	87	44	52	58	66	62	75	78	83	84	83	81	76	81	76	88	88	88	89	91	88	88	89	73.4
	Minimum	34	44	50	48	39	33	35	31	35	31	32	26	32	30	32	42	48	52	53	52	52	41	47	52	54	48	43	49	42	44	45	41.8
Lakota	Maximum	69	65	68	54	53	45	55	67	70	49	51	59	61	59	70	75	80	72	71	74	68	67	68	80	81	76	80	76	77	83	78	67.8
	Minimum	32	32	48	37	38	33	36	29	37	28	30	25	28	19	27	45	46	54	47	49	47	37	38	48	53	47	37	46	40	37	39	38.4
Lamoine	Maximum	70	67	58	68	62	40	53	65	77	48	50	54	62	62	73	75	78	78	78	70	65	67	68	79	83	75	83	76	60	83	72	67.7
	Minimum	36	48	46	36	32	31	33	26	42	26	30	22	26	27	31	40	46	52	48	44	46	37	42	46	51	46	39	40	37	37	39	38.1
Langdon	Maximum	70	74	62	68	55	41	54	68	65	47	50	57	57	51	71	79	83	74	78	75	65	61	75	80	77	74	82	84	71	81	71	68.0
	Minimum	29	41	42	46	46	34	34	28	43	25	28	20	32	20	30	41	41	55	46	49	44	32	33	42	55	47	38	53	40	38	40	38.5
Larimore §§	Maximum	79	62	69	67	56	46	55	65	70	61	55	60	63	60	71	77	80	79	72	77	73	67	69	89	83	79	82	73	73	81	75	69.6
	Minimum	37	44	48	48	42	35	36	31	40	30	28	27	34	25	31	39	45	45	53	53	48	43	41	48	58	55	48	48	45	44	56	42.2
Lisbon §§	Maximum	70	62	65	68	58	50	55	69	86	45	53	63	69	65	76	77	80	82	88	85	77	80	70	87	89	87	88	85	87	87	80	73.6
	Minimum	38	39	48	50	45	36	38	29	40	33	35	29	32	31	35	37	48	55	58	55	48	37	51	52	57	47	41	48	45	40	47	42.7
McHenry	Maximum	70	60	58	66	53	45	55	67	75	47	46	56	63	63	75	76	81	83	78	73	66	66	70	83	80	75	85	80	72	84	74	68.5
	Minimum	35	42	44	44	35	34	35	29	45	29	31	25	27	25	34	44	44	53	50	49	50	39	44	53	58	46	40	49	39	40	44	40.5
McKinney	Maximum	78	88	70	60	50	43	53	71	68	51	52	61	68	62	78	82	80	71	78	70	70	67	70	95	80	80	89	80	82	90	80	71.5
	Minimum	32	40	46	40	32	31	32	28	40	30	28	19	28	21	30	38	46	50	47	45	44	32	32	53	54	45	43	36	44	36	40	37.5
Manfred	Maximum	73	67	59	67	57	48	55	69	77	55	52	59	65	64	75	77	81	75	77	73	69	68	70	83	81	76	86	82	74	83	75	70.1
	Minimum	38	45	47	40	36	33	35	30	34	29	32	22	27	25	31	46	49	55	47	49	50	38	46	54	54	51	38	49	40	38	42	40.3
Marmarth	Maximum	68	68	74	57	38	38	50	77	74	56	37	49	59	65	74	77	75	73	74	62	58	58	57	82	74	65	82	70	73	82	75	65.2
	Minimum	43	44	43	38	32	32	31	28	45	36	27	23	29	32	36	44	45	48	48	48	44	39	49	47	49	46	44	40	38	40	45	39.6
Minot §§	Maximum	73	72	68	54	40	44	54	69	72	50	52	59	63	62	75	80	82	73	72	70	68	72	68	85	85	77	84	86	77	95	78	69.6
	Minimum	37	47	50	41	36	32	33	29	37	32	32	23	31	29	32	50	51	49	50	52	43	42	45	55	53	57	43	60	39	40	43	41.7
Mott	Maximum	62	73	74	68	60	42	59	63	75	62	46	48	52	61	68	75	77	79	78	74	66	60	63	80	77	84	82	78	83	88	81	69.0
	Minimum	37	45	43	46	32	30	32	39	47	36	30	25	25	28	35	46	48	55	53	50	47	34	42	46	36	40	43	35	40	48	42	39.8
Napoleon §§	Maximum	70	65	64	70	50	40	54	68	82	40	50	57	63	64	75	73	78	79	81	76	73	74	65	85	85	79	85	80	73	85	75	69.6
	Minimum	28	40	45	33	40	30	31	26	34	32	30	22	28	27	33	38	49	52	55	46	46	35	46	51	53	45	37	50	37	37	41	38.6
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	64	65	70	72	45	35	48	66	72	55	50	44	60	62	72	74	78	79	79	71	67	70	61	82	80	74	82	73	74	87	77	67.4
	Minimum	32	36	42	42	32	29	31	30	43	30	29	25	30	29	35	45	48	53	49	49	48	40	48	55	41	51	46	47	38	41	44	40.0
Orange	Maximum	72	58	70	69	44	41	51	72	80	59	42	51	59	63	73	72	76	76	80	68	67	64	54	83	72	74	80	72	79	88	80	67.4
	Minimum	38	46	44	44	38	34	32	28	42	38	29	25	26	28	39	43	46	51	51	39	45	34	49	52	45	42	40	38	31	36	37	39.0
Oriska	Maximum	68	65	59	63	65	47	65	67	83	56	63	58	68	63	73	75	79	75	86	80	73	75	66	88	85	83	91	86	70	86	76	72.2
	Minimum	31	50	50	49	38	35	38	32	42	30	28	31	35	27	31	40	46	53	50	53	45	29	48	50	49	59	59	49	44	44	58	42.7
Park River	Maximum	77	70	59	75	61	53	65	72	67	57	59	70	66	71	78	83	87	77	81	81	80	65	79	83	87	81	95	88	78	89	83	74.7
	Minimum	36	47	48	50	43	34	38	31	38	27	36	27	32	27	35	40	45	51	48	52	47	40	33	40	42	50	15	45	45	42	45	40.6
Pembina §§	Maximum	70	78	71	76	64	59	68	71	63	61	52	64	49	69	72	80	83	72	81	76	71	62	74	81	82	83	91	84	82	84	81	72.7
	Minimum	31	43	52	50	52	37	36	41	44	26	28	29	38	31	39	46	52	54	51	51	48	41	41	48	56	54	46	51	48	52	54	44.1
Power	Maximum	70	62	59	60	57	49	60	70	85	48	58	60	68	70	71	72	76	81	83	84	75	73	76	82	86	87	..	..	78	82	82	[b]71.2
	Minimum	40	50	50	48	39	39	30	40	40	35	33	28	29	30	37	40	46	50	56	50	49	40	40	39	49	49	..	..	40	45	44	[b]41.6
Towner	Maximum	71	72	63	62	48	51	56	68	71	55	49	58	65	61	75	78	80	77	74	71	68	65	69	82	80	78	84	81	74	84	82	69.4
	Minimum	36	40	49	40	38	35	33	29	44	29	31	22	27	26	33	46	49	52	49	48	47	35	42	54	50	55	41	52	36	39	37	46.6
Turtle Lake	Maximum	70	65	66	65	47	39	32	66	74	59	51	56	60	62	74	76	82	77	81	70	66	68	69	79	78	76	82	75	74	83	74	68.3
	Minimum	37	45	48	42	32	31	34	28	46	30	31	23	31	29	36	45	48	54	47	49	49	46	39	53	50	50	42	49	38	38	43	40.7
University	Maximum	68	61	57	69	56	48	58	66	70	51	52	59	64	60	71	78	80	74	77	78	68	67	70	80	85	79	83	80	73	84	73	69.0
	Minimum	32	46	50	49	38	36	39	32	44	31	34	25	32	26	32	43	50	54	58	53	48	40	38	49	59	54	45	53	47	42	45	42.7
Wahpeton §§	Maximum	69	64	52	65	62	46	52	65	76	48	48	64	65	60	69	75	75	77	82	83	72	75	75	81	84	87	81	77	74	81	72	69.5
	Minimum	38	47	50	47	46	36	38	32	43	34	38	26	30	29	34	43	44	50	63	58	50	40	49	55	55	50	44	54	46	49	50	44.1
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	74	76	67	66	47	48	56	68	61	52	54	60	62	61	77	84	79	69	74	68	67	66	71	82	81	78	85	75	76	88	77	69.3
	Minimum	31	38	39	44	39	34	32	31	46	31	28	41	26	25	32	44	47	50	51	53	44	44	36	56	51	56	36	51	34	33	38	40.1
Williston	Maximum	72	76	71	57	41	37	52	74	73	47	48	56	63	63	75	82	70	70	79	62	67	68	64	80	77	71	85	70	72	82	78	67.2
	Minimum	41	45	50	41	32	31	35	35	47	32	32	23	31	37	45	54	51	50	52	43	42	36	49	56	50	50	46	46	38	45	41	42.1
Willow City	Maximum	72	75	65	66	49	51	56	66	67	50	51	59	64	61	75	78	81	72	73	70	67	64	70	84	81	75	84	80	74	84	74	69.0
	Minimum	29	39	49	37	40	35	32	29	42	27	30	21	29	22	30	44	43	53	48	48	46	47	36	52	51	50	36	50	30	28	35	38.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
No Rain
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1914

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

MINNEAPOLIS, MINN.
WEATHER BUREAU OFFICE
JULY 24, 1914.

Departure of the Mean Temperature from the Normal, June, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., JUNE, 1914. No. 6.

GENERAL SUMMARY.

Exceptionally favorable weather for crops of all kinds prevailed throughout the State. In some parts the heavy rains interfered with field work, but on the whole the work was well advanced at the close of the month. The temperature averaged slightly below the normal, and there was somewhat less than the usual sunshine. The precipitation was the heaviest of record in the State. All stations, except in the northeast portion, showed amounts above the normal. Railway traffic was delayed considerably by the washing out of tracks and bridges caused by the overflowing of streams. Thunderstorms were frequent.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 29.90 inches. The highest was 30.33 inches at Bismarck, Burleigh County, on the 15th; the lowest was 29.38 inches at Williston, Williams County, on the 6th.

TEMPERATURE.

The mean temperature for the State was 62.2°, or 0.9° below the normal, and 3.6° lower than the mean for June, 1913. The highest monthly mean reported was 66.0° at McLeod, Ransom County; the lowest was 57.6° at Howard, Williams County. The highest temperature reported was 93° at Beach, Golden Valley County, Park River, Walsh County, and Pembina, Pembina County, on the 2d; the lowest was 29° at Hannah, Cavalier County, on the 19th. The greatest monthly range was 59° at Pembina, Pembina County; the least was 40° at Carson, Morton County. The greatest daily range was 52° at McKinney, Renville County, on the 19th. The first decade was the warmest, and the second the coldest. Usually the highest temperature was recorded on the 2d, and the lowest on the 19th.

HUMIDITY.

The average relative humidity, as determined from the 8 a. m. and 8 p. m. reports of four recording stations, was 74 per cent.

PRECIPITATION.

The average precipitation for the State was 6.26 inches, the heaviest of record since the climatological service was established in 1892, or 2.82 inches above the normal, and 3.91 inches more than the average for June, 1913. The greatest monthly amount reported was 13.28 inches at Carson, Morton County; the least was 2.43 inches at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 3.96 inches at Lamoine, Kidder County, on the 26th-27th. The average number of days with 0.01 inch or or more of precipitation was thirteen. The distribution of rainfall was quite uniform, both geographically and throughout the month. The rate of fall on the 26th-27th was excessive in many parts of the State. Particularly stormy periods were the 3d to 9th, inclusive, 13th-14th, 21st-22d, and the 26th to the 29th, inclusive, although rain occurred in some parts of the State on each day of the month.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 9.4 miles. The greatest wind movement was 8,282 miles at Devils Lake, an average of 11.5 miles per hour; the least was 5,612 miles at Moorhead, (Minn.) an average of 7.8 miles per hour. The maximum velocity for a period of five minutes was at the rate of 53 miles per hour from the east at Bismarck on the 25th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was somewhat less than the normal sunshine; the average number of clear days was 9, partly cloudy 11, and cloudy 10.

MISCELLANEOUS.

The stage of water in the Missouri River and tributary streams was above the average, due to the heavy and rapid rainfall. The Heart, Knife, and Cannon Ball rivers overflowed their banks and considerable damage resulted. A few reports of light damage from hail were received, and some loss to livestock and other property from lightning occurred.

ERRATA.

April, 1914: Steele, number of days with .01 or more precipitation should be 3; Towner, number of days with .01 or more precipitation should be 6; Wahpeton, mean minimum should be 29.6 and monthly mean 39.3.

May, 1914: Forman, mean maximum should be [b]72.8, mean minimum, [b]44.2, monthly mean, 58.5, and precipitation 2.24; Hannah, precipitation should be 2.86 inches; Marmarth, mean minimum should be 39.8, and monthly mean 52.5; Mayville, greatest 24-hour precipitation should be 1.14; Park River, greatest 24-hour precipitation should be 0.33.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	60.5	−2.6	94	28	3.35	−0.09
1893	67.4	+4.3	103	33	3.38	−0.06
1894	68.8	+5.7	103	25	3.44	0.00
1895	59.7	−3.4	97	29	4.67	+1.23
1896	65.6	+2.5	97	37	3.80	+0.36
1897	61.7	−1.4	109	20	3.75	+0.31
1898	62.6	−0.5	105	26	3.19	−0.25
1899	62.2	−0.9	105	30	3.81	+0.37
1900	66.9	+3.8	109	27	1.39	−2.05
1901	61.6	−1.5	95	22	6.16	+2.72
1902	58.0	−5.1	97	28	3.65	+0.21
1903	62.4	−0.7	96	27	1.44	−2.00
1904	61.4	−1.7	100	30	5.77	+2.33
1905	59.7	−3.4	97	32	4.52	+1.08
1906	62.0	−1.1	95	32	4.06	+0.62
1907	61.9	−1.2	95	25	2.85	−0.59
1908	60.4	−2.7	93	27	3.37	−0.07
1909	62.9	−0.2	98	28	2.21	−1.23
1910	67.3	+4.2	111	19	1.83	−1.61
1911	66.9	+3.8	108	25	3.12	−0.32
1912	61.8	−1.3	104	28	2.05	−1.39
1913	65.8	+2.7	101	27	2.35	−1.09
1914	62.2	−0.9	93	29	6.26	+2.82

Climatological Data for June, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of day—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure, from the normal.	Greatest in 24 hours.	Snowfall unmelted.	With .01 or more precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	64.0	−0.1	86	*2	38	19	40	5.96	+2.13	1.20	0	11	12	6	12	sw.	C. E. Wood
Aplin	Oliver	.....	7	62.6	.....	a87	2	a40	25	38	9.86	.....	2.64	0	16	6	14	10	e.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	63.2	+0.6	85	18	39	19	37	3.93	+0.31	0.98	0	11	14	8	8	e.	R. C. Miles
Beach	Golden Valley	2,576	8	63.2	.....	93	2	38	15	37	5.55	.....	1.81	0	14	11	17	2	se.	D. J. Steiner
Belfield	Stark	2,583	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Russell
Berthold Agency	McLean	2,082	20	61.8	−1.5	87	2	39	10	37	7.65	+3.53	2.18	0	16	10	10	10	e.	C. W. Hall
Bismarck	Burleigh	1,674	40	64.0	−0.2	84	2	40	19	32	9.90	+6.36	3.76	0	19	9	9	12	e.	U. S. W. B.
Bottineau	Bottineau	1,638	22	60.8	+2.7	89	2	40	*19	36	2.58	−0.83	0.48	0	13	9	7	14	s.	H. F. Steinmeier
Bowbells	Burke	1,958	2	60.1	.....	89	2	40	19	38	5.89	.....	1.65	0	13	20	0	10	.....	G. H. Phelps
Buford	Williams	1,944	35	62.6	−1.7	90	2	42	*10	32	6.85	+4.04	2.80	0	12	2	16	12	se.	C. H. McCune
Cando	Towner	1,488	13	c6.12	+0.3	c86	2	c33	19	46	4.27	+0.31	0.93	0	10	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	2	62.2	.....	82	2	42	19	34	13.28	.....	2.12	0	16	8	22	0	se.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	3.86	.....	0.66	0	12	9	12	9	se.	H. P. Rice
Crosby	Divide	1,954	7	61.2	.....	90	2	41	23	37	6.72	.....	2.80	0	15	.....	.....	.....	se.	W. D. Crouch.
Devils Lake	Ramsey	1,482	10	61.6	−1.0	85	2	38	19	34	5.84	+2.31	2.27	0	15	7	11	12	ne.	U. S. W. B.
Dickinson	Stark	2,543	22	61.6	0.0	86	2	40	*10	35	7.88	+5.01	1.91	0	16	5	21	4	sw.	L. R. Waldron
Donnybrook	Ward	1,760	15	59.8	−1.7	89	2	34	20	39	5.91	+3.09	2.34	0	11	.....	.....	.....	se.	C. J. DeVore
Dunseith. ,	Rolette	.....	18	60.0	−1.6	87	2	39	19	37	3.73	+0.71	0.79	0	13	8	9	13	se.	C. E. Goodsell
Eckman	Bottineau	.....	9	59.8	.....	91	2	35	19	49	5.25	.....	1.20	0	14	11	10	9	e.	J. Nussbaum
Edgeley	LaMonre	1,468	13	63.4	+0.2	88	23	35	19	42	4.04	+0.70	1.40	0	13	4	8	18	e.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	10.18	.....	2.00	0	17	8	8	14	s.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	5.66	.....	1.88	0	12	12	6	12	s.	M. E. Uggen
Fessenden	Wells	1,610	2	60.6	.....	84	2	33	19	37	6.58	.....	3.42	0	15	12	6	12	nw.	G. T. Seymour
Forman	Sargent	1,249	22	65.4	−0.2	83	23	42	*1	37	9.67	+6.30	3.90	0	16	9	8	13	se.	A. Maltby
Fullerton	Dickey	1,439	16	63.6	+0.6	86	8	36	19	37	5.04	+1.91	1.75	0	11	7	15	8	s.	F. O. Alin
Garrison	McLean	1,901	19	61.4	−1.4	84	2	37	19	34	7.59	+4.24	1.36	0	17	5	13	12	nw.	G. L. Robinson
Goodall	McKenzie	.....	.....	62.4	.....	88	6	41	19	36	6.25	.....	1.25	0	11	9	13	8	e.	C. H. Layman
Grafton	Walsh	827	22	62.4	−0.9	91	2	36	19	45	5.86	+2.51	2.25	0	12	17	10	3	s.	A. R. T. Wylie
Granville	McHenry	1,504	7	63.0	.....	87	2	34	18	45	7.10	.....	3.28	0	9	11	11	8	se.	W. A. Christianson
Haley	Bowman	2,260	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Clark
Hannah	Cavalier	1,568	9	58.6	.....	85	2	29	19	43	2.87	.....	0.96	0	8	9	10	11	nw.	J. Moffatt
Hansboro	Towner	1,597	6	.....	.....	d88	2	34	27	40	2.87	.....	0.70	0	8	.....	.....	.....	sw.	C. E. Blackorby
Hettinger	Adams	2,253	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	8	64.0	.....	85	2	38	18	36	5.41	.....	1.81	0	14	10	12	8	se.	F. E. Mayall
Howard	Williams	2,275	5	57.6	.....	90	2	37	*11	46	6.45	.....	2.41	0	12	4	14	12	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	62.8	−0.8	88	2	37	19	44	5.70	+1.94	2.25	0	18	11	0	19	e.	T. Pettigrew
Lakota	Nelson	1,579	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Pettes
Lamoine	Kidder	.....	6	59.2	.....	83	2	34	19	40	8.16	.....	3.96	0	12	8	9	13	ne.	E. V. Virgin
Langdon	Cavalier	1,615	18	60.3	.....	89	2	36	19	42	3.41	.....	1.20	0	9	22	2	6	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	61.6	−1.0	84	*1	40	19	30	5.40	+1.95	3.00	0	11	14	5	11	nw.	G. G. Graham.
Lisbon	Ransom	1,091	10	65.6	+2.4	87	*8	37	19	44	6.76	+2.76	2.85	0	14	11	7	12	nw.	W. S. Adams
McHenry	Foster	1,509	4	62.1	.....	86	2	35	18	41	3.64	.....	0.75	0	11	17	5	8	se.	P. E. Truden
McKinney	Renville	1,640	20	61.2	+0.3	91	2	35	19	52	4.93	+1.47	1.70	0	8	1	23	6	se.	N. P. Swenson
McLeod	Ransom	1,075	2	66.0	.....	83	23	41	*19	39	7.28	.....	3.17	0	15	21	8	1	s.	M. Reinholt
Mandan	Morton	1,644	1	63.8	.....	85	2	39	19	31	10.67	.....	3.86	0	16	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	11	61.8	−0.8	86	2	33	19	42	5.42	+1.99	1.67	0	13	7	13	10	nw.	P. B. Anderson
Marmarth	Billings	.....	5	63.4	.....	85	2	41	*7	37	5.14	.....	1.34	0	14	9	7	14	se.	S. P. Grane
Marstonmoor	Stutsman	.....	5	60.4	.....	83	2	34	19	40	7.11	.....	1.65	0	10	6	15	9	ne.	H. H. McCumber
Mayville	Traill	975	18	65.0	−0.3	86	7	36	19	39	4.54	+1.53	1.97	0	11	12	7	11	se.	W. C. Gould
Melville	Kidder	1,590	16	c59.4	−3.7	c85	*8	c34	19	c40	7.75	+4.33	2.00	0	13	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	10.10	.....	2.56	0	13	8	11	11	n.	Hj. Edman
Minot	Ward	1,557	18	e61.2	−2.1	e89	2	39	19	e37	9.94	+6.70	3.70	0	13	11	4	15	se.	B. L. Faris
Minto	Walsh	820	21	63.0	−0.9	88	2	35	19	41	7.49	+4.15	3.18	0	10	16	3	11	nw.	S. S. Marsh
Mott	Hettinger	2,424	7	63.5	.....	89	2	39	19	33	8.00	.....	1.78	0	11	8	12	10	nw.	O. H. Opland
Napoleon	Logan	1,955	22	62.5	−2.9	86	10	36	19	39	5.13	+1.35	1.60	0	16	8	3	19	se.	C. J. Hoof
New England	Hettinger	2,400	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly
New Rockford	Eddy	1,531	3	63.6	.....	84	*2	35	19	41	5.39	.....	2.51	0	9	11	12	7	se.	J. V. N. Sundberg
New Salem	Morton	2,163	9	62.0	.....	86	2	37	19	36	10.15	.....	2.12	0	19	4	18	8	se.	J. Christiansen
Orange	Adams	2,586	5	62.6	.....	89	25	35	12	43	10.47	.....	2.10	0	13	11	15	4	se.	J. E. Goforth
Oriska	Barnes	1,270	9	63.9	.....	89	10	34	19	34	4.34	.....	1.37	0	12	3	22	5	nw.	J. J. Taylor
Park River	Walsh	998	10	65.0	+0.8	93	2	35	18	49	5.00	+1.46	2.56	0	12	4	18	8	nw.	G. M. Hargrave
Pembina	Pembina	789	40	64.4	+1.7	93	2	34	19	41	2.43	−1.22	1.10	0	8	14	8	8	ne.	C. W. Shumaker
Power	Richland	1,020	22	d64.6	+0.3	d84	23	d38	19	d32	6.64	+3.16	3.17	0	12	11	6	13	.....	J. A. Power
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	4.83	.....	1.14	0	12	19	5	6	se.	R. E. Sheriff
Steele	Kidder	1,857	17	64.8	+2.1	84	9	40	19	30	5.89	+2.56	1.54	0	14	12	16	2	se.	H. S. Wood
Towner	McHenry	1,482	12	62.0	−0.6	87	2	34	19	38	5.06	+1.19	1.44	0	15	1	22	7	e.	B. Bagley
Turtle Lake	McLean	1,899	2	61.9	.....	85	2	35	19	35	7.73	.....	1.65	0	18	7	7	16	se.	E. G. Ranum
University	Grand Forks	830	22	62.8	−0.6	86	2	38	19	35	6.51	+2.98	2.14	0	13	14	6	10	ne.	U. S. W. B.
Wahpeton	Richland	962	20	63.3	−2.3	84	7	39	19	34	5.40	+1.49	1.17	0	18	9	13	8	se.	F. E. Smith
Walhalla	Pembina	966	7	.....	.....	.....	.....	.....	.....	.....	2.52	.....	1.68	0	5	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	K. Klein
Westnope	Bottineau	1,508	8	61.0	.....	90	2	37	19	45	4.19	.....	0.53	0	14	7	10	13	nw.	C. M. Condit
Williston	Williams	1,875	35	62.2	−1.3	89	2	42	10	34	6.68	+3.11	2.17	0	17	3	15	12	se.	U. S. W. B.
Willow City	Bottineau	1,471	22	59.6	−2.2	88	2	33	19	49	3.70	+0.17	0.87	0	13	5	19	6	nw.	M. A. Ostby
Zap	Mercer	.....	1	60.6	.....	85	2	37	19	32	9.93	.....	1.85	0	15	5	18	7	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	64.8	+0.5	85	7	41	19	35	8.92	+4.79	3.61	0	17	13	10	7	se.	U. S. W. B.
Averages		.....	....	62.2	−0.9	93	2	29	19	52	6.26	+2.82	3.96	0	13	9	11	10	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for June, 1914.

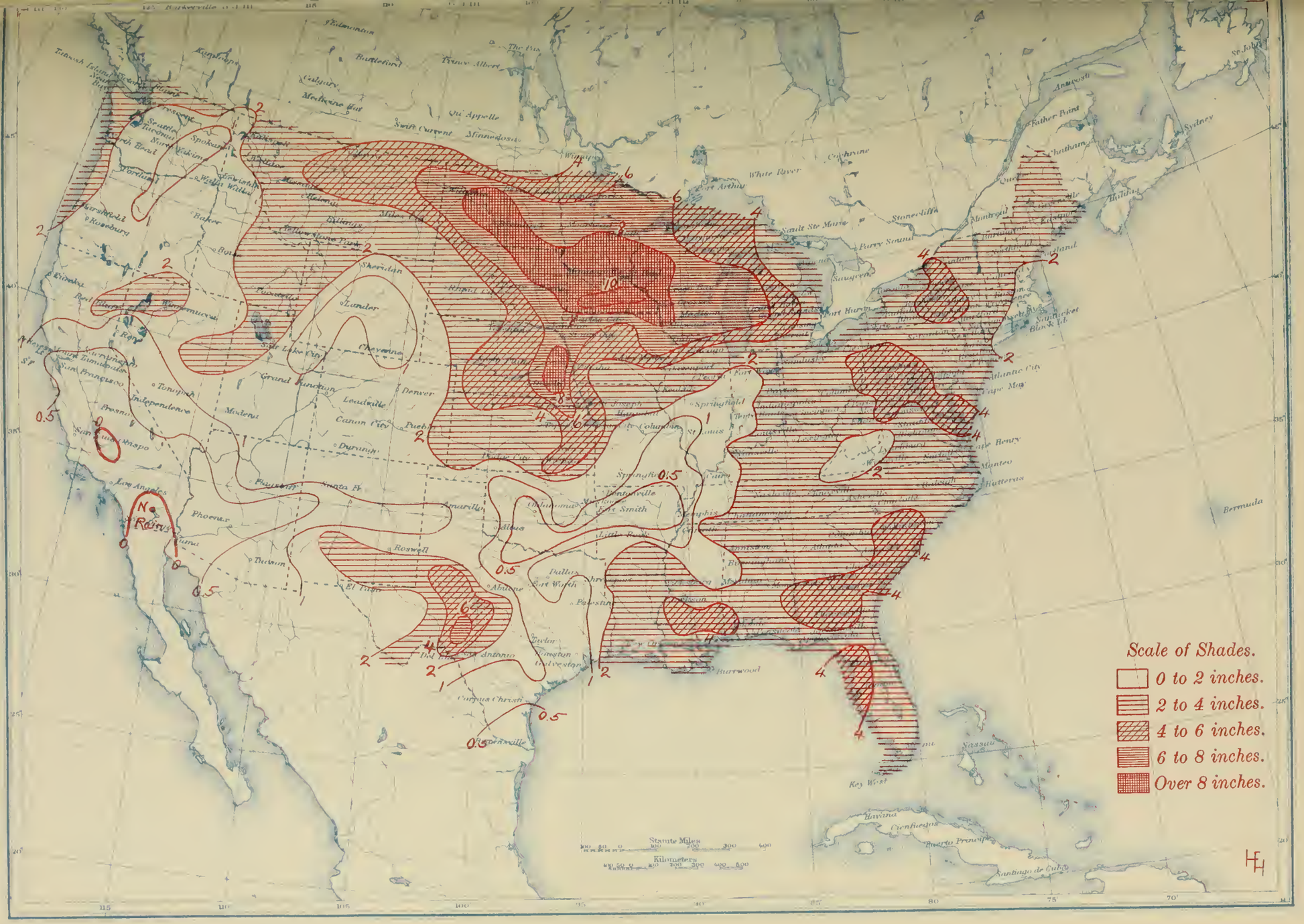
Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red				.65	T.	T.	.30	.65	1.20	.05	.21			.92	T.			T.	T.	T.				.75		.08	1.05	.10		T.		5.96
Aplin	Knife	T.		.19	.45	.85		.68	.01		T.		.47	.35	1.63					.06		.38	.67				1.29	2.64	.06	.06	.07		9.86
Ashley	Missouri			.42	.11	.58			T.					.98	.18			.44			.16		.10	T.			.76	.10	T.	.10	T.		3.93
Beach	Lit. Missouri			T.	1.81		.17		.10		T.	T.	T.	.38	.04		.14	.28		.05	T.	1.15	.02	T.			.71	.09	.60	.01			5.55
Belfield	Heart																															
Berthold Agency	Missouri			.16	.52	.13	.66	T.	.01		T.		.37	1.57			.06			.10		.70	.18			.03	2.18		.72	.12	.14		7.65
Bismarck ***	Missouri	T.		.47	1.01	.15	.05		.04		.35		.02	1.53	.04		.02	.29		T.	.02	.39	.76			T.	3.36	.43	.27	.63	.07		9.90
Bottineau ‖ ‖	Mouse				.01	.45	.18	.22		.03								.35	.48	.02			.34			.04	.30	.16	T.	T.			2.58
Bowbells ‖ ‖	Mouse				1.65	.81		.30		.15		.06				.21			.15				.24			.30	.87	.90		.10	.15		5.89
Buford	Missouri			.15	.90		.15							.50	.10							.10	.40			1.00	2.80	.20	.45	.10			6.85
Cando	Sheyenne				.70	.50	.17			.61		.08								.65		T.	.01			.10	.52	.93					4.27
Carson	Heart	.15		.35	1.50	.40	.33	T.			.08	T.	T.	1.25	1.37	.14		2.12		T.		.87	1.04				1.53	1.87	.17	.11			13.28
Colgate	Sheyenne				.21	.16		.05	.14	.65	T.	.60			.65				.08				.02				.66	.63			.01		3.86
Crosby	Mouse			*	2.80	.50	T.	.13	T.	.12	T.	.27		.11	T.			.04	T.			.12			.62		*	1.68	.03	.21	.09		6.72
Devils Lake ***	Sheyenne		T.		.47	.40	.82	.01	.35	T.	.04						.50	T.	.31			.02	.01			.10	1.08	1.19	.02		.52		5.84
Dickinson	Heart	.10		.67	.40		.47		.12	.01	T.	T.	.05	1.91	.25		.07	.07		.11		.73	.57				1.35	.55	.45	T.			7.88
Donnybrook	Mouse		.11	T.	*	2.34		.43	.09	T.	T.												.06			T.	*	2.14	.09	.54	.11		5.91
Dunseith	Mouse				.51	.32	.63	.23	.07								.12		.79				.08			.28	.49	.14	.03		.04		3.73
Eckman	Mouse				.37	.12	.02	.08	.13								1.20	T.	.16	T.		T.	.62			.26	.63	.73	.71	.19	.03		5.25
Edgeley	James			.01	.38	.26				.26				.10	.33			.26			.07		.07	.80			1.40	.05	.05				4.04
Energy	Missouri			2.00	1.40	.52	.35			.02	.06		.39	1.27			.24			.05	.38	.40					2.00	.37	.14	.15	.44		10.18
Epping	Missouri			.41	.75	.35						.08		.47	.45							.05	.50			.46	1.88	.18		.08			5.66
Fessenden ‖ ‖	James		.07		.10	.29	.04	.30		.06		.03			1.09	T.		.72	T.	.03	T.	T.	.08				.16	3.42		.16	.03		6.58
Forman	Sheyenne			.15	.85	.30		.33	3.90	.40	.50				.25			.05			.35			.15	.07		2.14	.05		.13	.05		9.67
Fullerton	James			1.34	T.	.40	T.		T.	.46	T.			.06	.37			.15			.24		.12	.05			1.75	.10	T.	T.	T.		5.04
Garrison	Missouri			.65	1.36	.32	.34	.19	.04		T.		.01	.02	.98		.34	.03				.41	.50				1.10	.73	.25	.32	T.		7.59
Goodall	Missouri				.75		.45		1.15						.75							.36	.14			.30	1.25	.65	.40	.05			6.25
Grafton ‖ ‖	Red					.23	.13	.61	.21	2.25									.18	.32			.04				.19	1.27	.22	.21			5.86
Granville	Mouse			T.	.55		.20		.70	T.							.17					T.	.25				3.28	1.58		.32	.05		7.10
Haley	Grand																															
Hannah	Pembina				.11	.96	.38		T.	.03										.51			.05			.21		.62			T.		2.87
Hansboro	Red				.40	.45	.30													.50			.10	.20				.70			.12		2.87
Hettinger	Grand																															
Hillsboro	Red				.30	.05		.29	1.40	.31	.10	.30			.17			.11		.01	T.						.43	1.81	.10		.03		5.41
Howard	Missouri			2.24	.37		.02		T.	T.	T.	T.	T.	.37	.03	.02					T.	T.	.06			.47	2.41	.16	.02	.33			6.45
Jamestown ‖ ‖	James			.02	2.25	.20	.15	.05	.01	.20		.80			.47	.10		.14			.05	.01	.12				.11	.75	.05	.22			5.70
Lakota	Sheyenne																															
Lamoine	Missouri			T.	*	*	.97		*	.12	T.			*	1.56		.77			T.		.40	.38				*	3.96	T.	T.			8.16
Langdon	Pembina					.14	.76	.30		.03								T.	.50	.38	.02						.06	1.20	.02				3.41
Larimore ‖ ‖	Red				.30	.50	.33	.41	.02	.08	.01								.01	.70								3.00	.04				5.40
Lisbon ‖ ‖	Sheyenne				2.85	.25	T.	.25	.65	.65	T.	.05			.15	T.		.26	.50	T.	.08	T.	.08		.21		.25	.53	T.	T.			6.76
McHenry	James				.30	.25	.30		.13	.10	.10				.50	T.		T.								.43	.75	.75	.03		T.		3.64
McKinney	Mouse				1.70	.20		.50	T.		T.	T.								T.	T.		.33				.55		1.25	.15	.25	T.		4.93
McLeod	Sheyenne				.70	.13	.02	.51	3.17	.37	.27								.23			.08		.07			.19	1.45	.06		.02	.01		7.28
Mandan	Missouri																															
Manfred	Sheyenne	T.			.61	.13			.16	T.	.04				1.12			.14	.02				.07	.11			.04	1.25	1.67		.06	T.		5.42
Marmarth	Lit. Missouri	.08		T.	.17					.10			.14	T.	1.34	.65		.02	.03			.14	1.14	.39				.40		.45	.09			5.14
Marstonmoor	James			T.	.48	.32	T.	.24	T.	T.		.82	T.		1.65			.35	.45	T.	T.	T.	T.	.20				.85	1.65		T.	T.		7.11
Mayville	Red				.60			.63	.16	.27	.10	.28			.22					.26				.02				1.97	.03				4.54
Melville	James			1.54		.34	.16	.54	.26	.61	T.	.10			1.22		.40	T.	T.	T.			.24				.22	2.00		.12			7.75
Minot	Red			.34	1.30	.22		.95	2.56	.61					.14			.16				.16					2.50	.56		T.	.44		10.10
Minot ‖ ‖	Mouse				3.70	.85	.11	.22		1.17				T.	.15			.10	T.			.03	.25			T.	.25	2.04		.89	.18		9.94
Minto	Red				.23	.16		.25	.33	3.18									1.01			.07				.20	.20	1.86					7.49
Mott	Cannon Ball			.82		.02		.18	T.		.06		.56	1.70	.06		.85		T.			1.72					1.78		.25				8.00
Napoleon ‖ ‖	Missouri				.11	.12	.15	.19				.85		.50	.19	.03		.19			.07		.43				.50	1.60	.02	.12	.06		5.13
New England	Cannon Ball			.18	.17	.95	.15						.38	1.56	.14		.52					88	1.04				1.30	.30	.28				7.85
New Rockford	James				.27	.31	.61		.16		T.				1.20											.05	2.51	.25	.03				5.39
New Salem	Heart			.55	.05	.67	.41		T.		.11			1.06	.46		.04	.03		.02	.05	.65	1.21			.03	1.96	2.12	.43	.28	.02		10.15
Orange	Cannon Ball			.05			.70	T.			.04	.10	2.10	.65				.17				1.30	1.35			.65	1.85	1.31		.20			10.47
Oriska	Sheyenne				.90	.11	.10			.36	.01	.17			.37			.18						1.37				.75	.02				4.34
Park River	Red				.42	.17	.02	.37	.15	.28								T.	.66			.02	.03			.26	.06	2.56		T.			5.00
Pembina ‖ ‖	Red		T.			.01	T.	.10	T.	.12	.84								.08	.08			T.					1.10	.10				2.43
Power	Sheyenne		.70	T.	T.	.32	.93	2.24	.04		.35	T.	.08				.32	T.			.05		.08	T.		.35	1.18	T.					6.64
Ranger	Lit. Missouri	.26		T.	.19		.21		.41		.12	.03	.72	.98	.13	T.					1.14						.21		.43				4.83
Steele	Mouse			T.	.13	T.	.23	.75		.60	T.	.12		.23	1.54	T.		.10	T.		.02	.22	.25		T.		.59	.30	.31				5.89
Towner	Missouri				.41	.04	.16	.15	1.20			.05					.10		.25			.04	.16			.11	.68	1.44	.04	T.	.23		5.06
Turtle Lake	Red		.52	.85	.50		T.			.10	.21		.03		1.30		.26	.49		.04		.44	.35			.03	.71	1.65	.14	.06	.05		7.73
University	Red		.01	.31	.05	.21	.80	.78	1.04											.84		.01				.01	1.20	1.20			.05		6.51
Wahpeton ‖ ‖	Pembina		.15	.94	.02	.02	1.07	.56	1.17	.02	.02				.14			.04		.10		.16		.04		.09		.54	.30	.02			5.40
Walhalla	Missouri			.10	.18		.15													.41			T.					1.68					2.52
Washburn	Mouse																															
Westhope	Missouri		.06	.53	.10	.22	.11	.25												.40			.34			.43	.36	.35	.15	.40	.49		4.19
Williston ***	Pembina		1.50	.94		.17		T.		.05	.02	.02	.48	.03	.15	.02					T.	T.	.31	.04			.50	2.16	.01	.12	.16	T.		6.68
Willow City	Knife			.60	.30	.08	.22	.10	T.	T.								.20		.40				.17			.25	.38	.87	.04	T.	.09		3.70
Zap	Missouri		.93	.40		.60		.15					.43	1.85				.37			.10		.72	.72			1.73	1.56	.33	.02	.02		9.93
Moorhead, Minn ***	Red			.66	.22	.09	.25	3.48	.24	.12	.03				1.32			.12	.02		.02		.01	.05			2.15	T.	.04		.10		8.92

‖ ‖ Precipitation measured in the morning. Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.
* Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	82	86	81	65	68	82	85	82	84	83	75	71	75	76	80	76	79	65	65	80	70	81	86	71	70	69	68	68	78	65	..	75.5
	Minimum...	45	49	52	52	55	58	60	62	56	53	55	56	55	56	50	50	55	54	38	40	54	60	48	50	51	50	54	47	48	58	..	52.4
Aplin	Maximum...	80	87	84	74	70	78	73	80	74	72	72	72	68	62	75	73	82	74	70	75	70	72	74	..	78	75	65	64	72	74	..	a73.8
	Minimum...	52	57	62	59	57	56	53	55	50	44	42	53	52	52	45	56	53	50	42	57	58	52	47	..	40	53	50	47	47	50	..	a51.4
Ashley	Maximum...	78	81	81	65	73	78	78	81	78	80	73	71	67	66	72	73	76	85	76	74	67	74	85	79	78	77	64	62	72	72	..	74.5
	Minimum...	41	51	62	57	58	58	50	56	52	49	55	52	50	57	54	46	56	50	39	52	55	55	54	49	52	57	52	42	43	54	..	51.9
Beach	Maximum...	91	93	90	82	73	80	74	78	79	72	73	72	66	69	73	80	83	83	78	74	80	74	72	80	85	68	73	59	75	75	..	76.8
	Minimum...	55	56	59	56	53	56	40	50	51	41	39	56	50	48	38	54	48	54	50	56	55	40	43	44	57	49	48	53	45	45	..	49.6
Berthold Agency	Maximum...	79	87	81	69	75	78	74	83	70	75	76	68	70	66	77	77	81	68	74	75	71	73	74	80	71	59	70	65	73	74	..	73.8
	Minimum...	47	57	62	57	57	57	46	53	46	49	43	50	50	53	44	52	49	52	40	53	56	52	44	43	52	48	49	47	45	47	..	49.7
Bismarck	Maximum...	75	84	82	71	70	80	76	82	78	80	73	72	70	68	75	75	80	75	72	78	72	74	78	80	77	63	66	61	72	75	..	74.5
	Minimum...	54	56	63	61	60	57	52	57	53	50	47	55	54	54	57	57	58	46	40	56	58	56	56	49	55	65	62	50	48	53	..	53.6
Bottineau §§	Maximum...	83	89	79	58	63	72	71	73	74	71	74	74	73	80	78	80	84	59	69	76	65	73	75	75	58	63	71	65	72	78	..	72.5
	Minimum...	47	56	62	55	53	55	52	51	49	43	46	47	50	55	45	48	53	45	40	46	52	53	45	40	49	47	51	46	43	48	..	49.1
Bowbells §§	Maximum...	83	89	75	59	69	67	70	72	72	68	73	70	70	75	75	78	82	57	78	70	72	73	75	74	57	58	67	66	68	73	..	71.2
	Minimum...	61	62	63	55	53	59	51	49	51	41	45	50	50	50	43	48	51	44	40	55	48	50	46	40	47	45	45	46	44	47	..	49.0
Carson	Maximum...	74	82	78	76	70	78	73	78	74	76	72	68	70	67	72	73	78	76	70	74	75	71	76	78	80	64	67	65	75	73	..	73.4
	Minimum...	52	58	58	57	57	58	46	56	46	43	38	52	53	54	46	53	50	52	42	57	56	52	48	46	56	52	50	47	46	52	..	51.1
Crosby	Maximum...	85	90	75	64	74	75	70	74	72	68	70	71	62	74	76	79	70	80	74	70	73	74	75	66	..	..	68	64	71	76	..	b72.9
	Minimum...	50	55	60	53	52	56	55	50	54	44	58	52	49	50	45	51	46	43	49	51	47	44	41	49	..	..	45	50	46	49	..	b49.4
Devils Lake	Maximum...	83	85	78	63	63	79	74	79	76	71	73	73	71	76	75	78	78	60	65	75	68	73	80	75	58	61	66	64	71	64	..	72.2
	Minimum...	52	56	63	53	54	56	55	53	55	49	49	48	48	53	41	49	55	41	38	55	51	58	55	49	48	50	48	44	51	52	..	51.0
Dickinson	Maximum...	81	86	81	76	73	77	70	77	73	70	72	69	65	63	73	75	78	68	71	75	79	76	72	77	80	67	67	68	73	73	..	73.5
	Minimum...	53	57	58	58	54	57	43	50	50	40	40	51	49	46	40	52	54	51	44	54	56	48	45	42	55	51	49	49	46	47	..	49.6
Donnybrook	Maximum...	82	89	76	64	67	74	70	72	71	64	68	70	68	65	71	76	80	62	..	72	65	73	74	..	54	..	64	64	68	71	..	c70.2
	Minimum...	45	56	57	53	51	57	49	49	48	42	48	56	49	61	50	56	62	41	..	34	51	52	44	..	46	..	50	51	43	45	..	c49.4
Dunseith	Maximum...	82	87	77	64	63	71	69	77	78	69	68	74	70	77	76	76	80	64	64	74	67	71	74	72	56	60	66	65	69	74	..	71.1
	Minimum...	45	55	64	53	51	58	53	48	50	43	47	47	49	53	46	46	50	42	39	49	51	54	49	43	46	49	49	45	41	51	..	48.9
Edgeley	Maximum...	81	83	78	74	72	80	80	82	81	82	72	72	70	65	73	75	75	74	67	77	74	76	88	79	78	74	64	62	73	74	..	75.2
	Minimum...	42	48	63	57	57	58	52	61	52	51	52	53	53	57	48	42	56	50	35	52	57	55	56	48	51	56	51	43	50	55	..	51.7
Fessenden §§	Maximum...	81	84	74	60	67	78	75	78	79	76	73	73	75	67	72	73	79	56	65	78	68	73	80	80	65	59	67	60	69	76	..	72.0
	Minimum...	46	50	62	55	53	55	49	51	52	45	44	48	50	52	44	45	56	50	33	48	53	55	50	43	46	50	49	43	50	50	..	49.2
Forman	Maximum...	79	81	80	78	69	81	82	81	79	78	74	76	68	66	79	74	73	73	67	74	68	76	83	79	80	75	66	65	71	74	..	75.0
	Minimum...	42	57	64	57	57	59	63	62	70	55	57	56	56	56	51	50	57	54	42	53	58	60	53	54	56	62	54	48	54	57	..	55.8
Fullerton	Maximum...	80	84	81	66	72	82	81	86	81	81	70	70	69	66	72	75	75	74	70	73	68	77	85	78	77	76	62	66	72	73	..	74.7
	Minimum...	48	47	62	57	57	56	64	58	54	55	53	54	53	54	49	48	56	47	36	53	57	57	49	49	53	58	48	45	45	57	..	52.6
Garrison	Maximum...	78	84	83	66	68	76	72	78	73	70	72	70	71	65	72	73	69	80	71	75	67	70	76	77	64	60	65	63	70	74	..	71.7
	Minimum...	48	58	58	57	57	60	49	54	49	48	56	50	52	53	49	51	50	48	37	53	54	52	46	51	53	49	49	50	45	57	..	51.1
Grafton §§	Maximum...	87	91	79	63	66	83	84	80	81	77	69	76	74	80	76	81	81	60	68	80	70	76	84	79	61	70	66	72	75	76	..	75.5
	Minimum...	42	56	63	51	51	55	57	56	57	52	52	41	40	49	40	45	48	45	36	51	45	59	50	47	46	50	50	46	44	52	..	49.2
Granville	Maximum...	82	87	81	65	70	77	70	75	72	74	71	72	73	68	74	78	82	79	78	79	78	77	75	80	79	78	70	68	67	70	..	75.0
	Minimum...	48	48	58	50	54	54	50	52	44	50	48	48	48	57	48	52	62	34	36	66	54	60	55	62	56	47	56	51	50	55	..	51.1
Hannah	Maximum...	75	85	80	65	64	72	81	78	80	77	78	77	76	80	78	80	79	65	57	79	67	78	80	71	57	60	67	69	70	80	..	73.5
	Minimum...	34	48	56	43	49	51	52	49	52	48	45	40	39	40	35	49	47	39	29	48	40	48	39	42	40	41	41	42	39	45	..	43.7
Hettinger	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hillsboro	Maximum...	82	85	81	81	63	81	78	78	81	78	74	73	74	75	75	76	73	65	74	73	73	74	84	80	78	75	62	69	73	74	..	75.4
	Minimum...	46	55	62	55	56	59	61	62	56	53	54	48	49	55	47	48	50	38	51	50	52	58	58	51	48	54	52	49	51	54	..	52.7
Howard	Maximum...	87	90	80	72	85	80	73	75	74	74	77	68	68	76	74	77	77	70	73	75	73	72	77	82	65	56	70	70	66	70	..	70.9
	Minimum...	45	55	42	42	42	53	42	44	42	38	37	37	48	42	43	44	47	42	41	44	51	41	41	49	49	45	48	50	46	42	..	44.4
Jamestown §§	Maximum...	81	88	77	63	68	79	78	82	84	81	70	70	70	71	74	76	78	65	70	79	67	75	83	80	76	75	60	62	72	74	..	74.3
	Minimum...	42	44	57	48	47	56	55	60	57	56	54	56	54	59	47	46	57	54	37	47	54	55	50	51	53	53	51	45	40	51	..	51.2
Lakota	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Lamoine	Maximum...	78	83	72	60	67	76	72	78	78	73	68	68	70	62	70	68	75	74	68	73	65	70	75	76	66	60	65	60	68	72	..	69.8
	Minimum...	40	43	63	54	53	57	40	63	50	45	42	50	50	52	44	48	55	44	34	53	54	53	50	45	50	50	48	43	44	48	..	48.7
Langdon	Maximum...	84	89	79	57	59	76	74	77	80	74	69	77	75	79	78	82	83	56	65	74	71	71	79	73	57	60	68	68	72	76	..	72.7
	Minimum...	42	54	60	55	50	52	52	50	55	46	45	44	42	57	42	44	49	42	36	49	47	55	50	42	45	47	49	42	44	50	..	47.9
Larimore §§	Maximum...	84	84	77	66	61	77	78	75	75	72	68	70	70	74	70	75	78	52	63	76	68	74	82	72	70	70	64	64	71	70	..	71.7
	Minimum...	55	55	66	57	56	61	60	60	60	60	58	47	46	62	44	46	56	50	40	50	49	60	52	50	50	55	50	45	52	56	..	53.6
Lisbon §§	Maximum...	84	86	83	66	70	84	86	87	87	85	78	76	75	76	78	77	80	71	68	80	68	80	87	85	82	72	70	80	75	77	..	78.1
	Minimum...	40	48	63	55	53	57	58	62	53	58	56	54	55	53	49	48	55	55	37	52	55	55	50	50	50	53	56	43	54	55	..	52.7
McHenry	Maximum...	83	86	75	65	65	80	75	81	79	78	68	72	75	71	76	71	81	68	63	76	68	76	80	76	73	65	61	64	72	73	..	73.2
	Minimum...	42	51	65	54	53	56	53	55	53	42	47	49	50	53	43	64	56	35	45	46	53	53	53	46	51	53	46	40	51	51	..	51.0
McKinney	Maximum...	85	91	84	60	66	75	75	75	80	70	74	74	80	80	78	75	90	84	87	77	78	80	80	79	58	60	72	61	75	75	..	75.9
	Minimum...	40	55	53	54	45	60	50	48	50	40	48	47	50	52	48	38	47	38	35	40	47	48	40	42	48	42	55	44	40	50	..	46.5
Manfred	Maximum...	88	86	76	71	68	80	74	80	77	73	71	74	75	67	74	75	81	70	68	77	68	73	79	79	67	60	67	68	75	78	..	73.8
	Minimum...	45	44	65	55	55	58	49	51	53	45	45	48	51	53	45	47	58	45	33	55	53	56	50	45	44	50	50	44	48	50	..	49.7
Marmarth	Maximum...	83	85	80	80	72	79	72	78	73	81	75	62	60	65	72	78	79	84	74	74	84	76	74	78	84	75	83	82	74	73	..	76.3
	Minimum...	53	57	63	56	49	50	41	50	48	44	41	48	49	43	49	55	51	52	48	69	74	47	44	48	47	45	47	54	46	48	..	50.5
Minot §§ ... *	Maximum...	82	89	82	63	71	..	..	..	..	..	72	73	74	72	76	80	85	65	74	76	66	73	76	77	65	59	67	63	71	75	..	e73.0
	Minimum...	50	60	61	57	55	58	50	53	52	43	46	50	51	42	46	51	52	49	39	48	53	54	51	40	50	40	47	50	45	49	..	49.4
Mott	Maximum...	80	89	82	73	80	83	86	81	75	87	82	73	66	78	79	75	79	74	77	78	81	75	77	78	82	70	72	68	74	77	..	77.7
	Minimum...	52	57	53	46	50	56	60	55	52	42	51	50	56	50	46	42	47	44	39	48	54	45	46	47	55	51	46	47	45	47	..	49.3
Napoleon §§	Maximum...	76	82	81	70	74	80	78	85	80	86	73	72	70	68	75	76	78	78	70	77	72	72	81	83	78	66	65	60	74	73	..	75.1
	Minimum...	40	56	64	55	55	54	44	56	48	49	45	53	50	51	45	46	55	57	36	52	54	54	50	44	48	53	50	41	45	51	..	49.9
New England	Maximum...	78	76	81	83	79	80	87	84	86	84	84	84	80	78	82	82	88	78	74	74	84	74	77	83	74	75	66	67	73	72	..	78.9
	Minimum...	56	48	54	51	48	49	52	48	49	46	44	42	41	42	48	44	52	52	48	48	49	52	45	48	46	52	49	59	45	48	..	48.5
New Rockford	Maximum...	83	84	79	70	65	80	77	84	81	75	71	76	79	74	79	77	69	67	76	74	78	81	81	78	78	79	76	77	80	80	..	76.9
	Minimum...	46	57	69	54	53	58	55	53	54	49	46	48	47	53	53	47	55	45	35	40	52	56	51	46	49	44	46	43	51	52	..	50.2
New Salem	Maximum...	82	86	81	72	71	79	72	82	75	76	73	72	67	65	74	73	78	80	71	71	72	71	74	76	78	61	65	61	72	73	..	73.4
	Minimum...	48	50	60	59	59	57	48	57	48	49	44	51	51	51	47	52	52	50	37	51	55	52	47	49	51	52	48	46	46	49	..	50.5
Orange	Maximum...	87	87	87	88	83	80	72	79	79	87	72	60	67	69	72	75	79	80	65	72	78	72	74	77	89	73	65	67	77	72	..	76.1
	Minimum...	53	56	56	51	54	56	44	55	45	44	36	35	49	52	41	52	50	50	44	56	55	51	50	46	54	52	47	46	46	51	..	49.2
Oriska	Maximum...	83	83	75	71	73	78	83	85	85	89	71	73	72	72	71	80	80	69	65	78	63	76	81	82	75	72	57	63	72	74	..	75.0
	Minimum...	49	55	63	54	56	59	69	57	55	65	54	50	49	54	46	51	51	44	34	52	54	55	50	50	48	51	51	44	52	53	..	52.8
Park River	Maximum...	90	93	80	70	62	86	86	88	87	83	78	80	82	91	86	85	86	69	75	86	76	77	92	80	60	68	65	73	76	79	..	79.9
	Minimum...	46	56	60	54	50	57	57	55	57	51	50	40	40	50	39	53	47	35	49	67	47	59	53	50	45	46	48	45	44	55	..	50.2
Pembina §§	Maximum...	92	93	89	78	73	87	90	84	79	76	76	78	81	78	81	72	82	62	62	71	81	76	82	87	64	74	71	81	81	82	..	78.8
	Minimum...	51	56	58	51	49	52	54	58	58	51	52	51	46	51	44	56	49	44	34	48	50	52	48	48	47	44	48	48	49	52	..	50.0
Power	Maximum...	79	82	83	78	73	79	81	74	80	78	78	70	71	72	75	76	72	66	65	75	67	73	84	82	76	..	..	..	..	74	..	d75.5
	Minimum...	55	59	62	52	56	59	61	60	59	54	55	52	53	49	51	51	54	51	38	43	50	50	54	55	60	..	..	..	..	50	..	d53.7
Towner	Maximum...	82	87	82	75	67	76	75	76	73	72	71	72	75	75	77	78	81	80	68	77	71	74	75	76	74	67	67	67	70	75	..	74.2
	Minimum...	44	56	64	54	55	60	52	47	51	44	46	47	50	54	43	48	51	45	31	50	51	56	52	44	49	50	51	48	48	49	..	49.8
Turtle Lake	Maximum...	78	85	81	67	67	80	80	79	73	70	70	71	72	66	73	73	78	74	70	75	69	70	76	76	68	63	65	64	70	73	..	72.6
	Minimum...	49	66	64	57	56	56	64	54	50	44	46	52	51	53	47	49	51	48	35	54	56	54	46	48	51	50	50	48	45	49	..	51.2
University	Maximum...	82	86	78	62	62	80	80	76	82	75	70	72	72	76	74	76	76	62	64	72	71	74	82	80	65	74	58	69	73	75	..	73.3
	Minimum...	47	59	62	55	54	60	61	60	59	55	54	46	44	55	45	48	51	46	38	51	47	61	50	50	48	56	51	53	47	56	..	52.3
Wahpeton §§	Maximum...	77	83	81	64	68	80	84	82	79	74	72	72	71	67	74	74	69	75	64	70	64	75	81	77	79	77	64	66	73	75	..	73.7
	Minimum...	43	52	60	53	56	59	57	61	56	54	55	53	54	52	50	49	53	52	39	53	54	57	50	51	53	52	56	44	52	57	..	52.9
Washburn	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum...	86	90	84	69	64	71	71	70	73	71	71	73	70	77	77	79	84	80	70	74	68	78	75	74	58	60	65	61	71	73	..	72.9
	Minimum...	41	67	63	54	55	60	57	51	49	42	44	47	50	51	40	44	47	50	37	46	52	54	45	46	50	48	52	47	45	49	..	49.9
Williston	Maximum...	86	89	84	65	75	77	71	79	74	66	72	69	66	66	77	76	84	67	80	73	70	75	70	77	65	57	69	68	69	75	..	73.0
	Minimum...	57	62	58	58	56	55	47	50	54	42	44	53	52	54	48	57	52	48	46	51	56	48	50	44	52	49	50	53	50	50	..	51.5
Willow City	Maximum...	83	88	80	74	64	72	72	73	73	70	74	73	72	78	77	77	80	74	68	75	71	73	74	73	72	59	66	64	70	74	..	73.1
	Minimum...	34	50	60	43	54	60	52	50	50	41	42	43	44	50	41	43	47	42	38	47	51	52	50	40	41	34	51	44	42	48	..	46.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

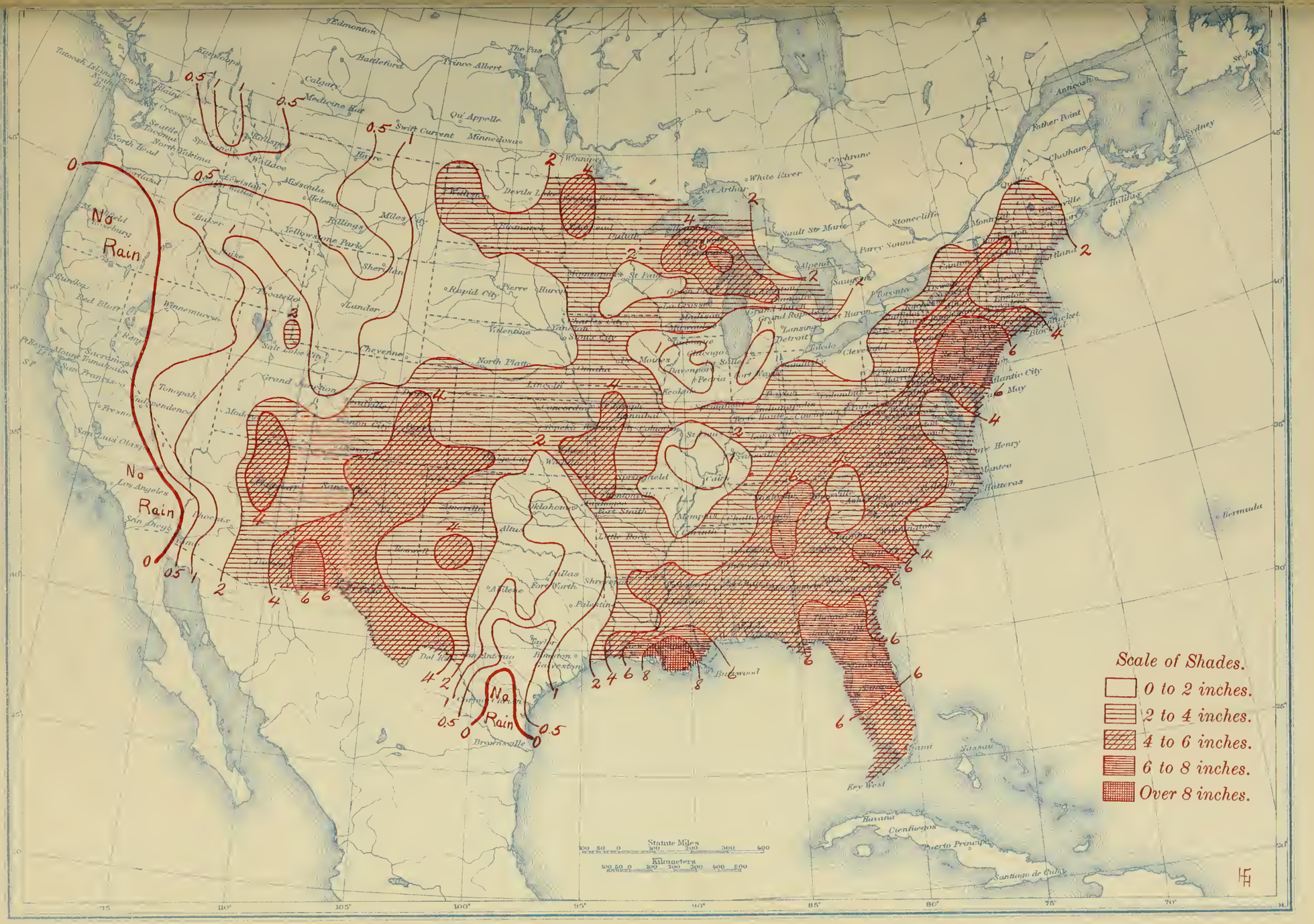
JULY, 1914

BY

ORRIS W. ROBERTS

SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 20, 1914.


No Rain
No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., JULY, 1914. No. 7.

GENERAL SUMMARY.

Unusually high temperature prevailed during July throughout the Section. The night temperatures were high, and as a result corn made rapid growth. Conditions for small grain, however, were not nearly so favorable. In the western portion grain suffered considerably from hot winds, and in the central and eastern portions much damage from rust was reported. The mean temperature for the State was the highest ever recorded during any July since the Climatological Service was established in 1892. The average precipitation was below the normal, and the rainfall was fairly evenly distributed. There were a large number of severe thunderstorms, in many instances accompanied by hail. Much property was destroyed by hail, and several buildings and quite a large number of lives were destroyed by lightning.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.94 inches. The highest was 30.26 inches at Bismarck, Burleigh County, on the 7th; the lowest was 29.48 inches at Williston, Williams County, on the 20th.

TEMPERATURE.

The mean temperature for the State was 72.1°, or 4.5° above the normal, and 6.5° higher than the mean for July, 1913. The highest monthly mean reported was 75.4° at Steele, Kidder County; the lowest was 68.8° at Hannah, Cavalier County. The highest temperature reported was 109° at Napoleon, Logan County, on the 26th; the lowest was 36° at Howard, Williams County, on the 9th, and at Marstonmoor, Stutsman County, on the 23d. The greatest monthly range was 68° at Napoleon, Logan County. The greatest daily range was 55° at Howard, Williams County, on the 9th. The last decade was the warmest, and the second the coldest. Usually the highest temperature occurred on the 26th or 27th, and the lowest on the 17th or 23d.

HUMIDITY.

The average relative humidity, as determined from the 8 a. m. and 8 p. m. reports of four recording stations, was 68 per cent.

PRECIPITATION.

The average precipitation for the State was 2.31 inches, or or 0.36 inch below the normal, and 0.01 inch more than the average for July, 1913. The greatest monthly amount reported was 5.50 inches at Dickinson, Stark County; the least was 0.41 inch at Beach, Golden Valley County. The greatest amount recorded in any twenty-four consecutive hours was 4.03 inches at Dickinson, Stark County, on the 28th. The average number of days with 0.01 inch or more of precipitation was six. The distribution of rainfall was quite uniform, both geographically and throughout the month. Particularly stormy periods were the 5th-6th, 10th, 15th-16th, and 26th-31st, inclusive.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 7.8 miles. The greatest wind movement was 6,788 miles at Devils Lake, an average of 9.1 miles per hour; the least was 4,798 miles at Williston, an average of 6.4 miles per hour. The maximum velocity for a period of five minutes was at the rate of 39 miles per hour from the southwest at Bismarck on the 26th, and from the northwest at Williston on the 15th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 19, partly cloudy 9, and cloudy 3.

MISCELLANEOUS.

The stage of water in the rivers of the State was nearly the average. Many severe thunderstorms occurred and resulted in the loss of an exceptionally large number of human lives, and also an enormous loss to property. Severe hailstorms were reported, and much loss was sustained from that source.

ERRATA, JUNE, 1914.

Page 44: Larimore, monthly mean should be 62.6°.
Page 45: Steele, precipitation on 27th should be .80 inch.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	68.7	+1.1	108	31	3.23	+0.56
1893	69.5	+1.9	112	35	2.04	−0.63
1894	71.7	+4.1	107	38	0.53	−2.14
1895	66.1	−1.5	102	29	2.90	+0.23
1896	67.5	−0.1	107	31	1.59	−1.08
1897	68.9	+1.3	109	38	4.43	+1.76
1898	67.6	0.0	106	28	2.49	−0.18
1899	68.3	+0.7	109	32	2.34	−0.33
1900	67.9	+0.3	107	33	2.25	+0.42
1901	70.8	+1.2	110	40	4.28	−1.61
1902	67.6	0.0	106	34	2.15	−0.52
1903	66.7	−0.9	109	26	2.23	−0.44
1904	64 4	−3 2	102	34	2.49	−0.18
1905	65.6	−2.0	100	32	3.90	+1.23
1906	66.9	−0.7	102	34	1.97	−0.70
1907	65.8	−1.8	103	31	3.14	+0.47
1908	68.6	+1.0	103	31	2.10	−0.57
1909	67.1	−0.5	99	34	2.89	+0.22
1910	70.0	+2.4	114	33	1.60	−1.07
1911	65.1	−2.5	107	23	1.82	−0.85
1912	66.0	−1.6	106	30	3.54	+0.87
1913	65.6	−2.0	103	35	2.30	−0.37
1914	72.1	+4.5	109	36	2.31	−0.36

Climatological Data for July, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure, from the normal.	Greatest in 24 hours.	Snowfall unmelted.	With .01 or more precipitation.	Clear days.	Pt. cloudy days.	Cloudy days.	Prevailing direction of wind.	
Amenia	Cass	954	18	73.2	+4.9	100	27	45	1	39	3.82	+0.51	1.40	0	5	19	5	7	sw.	C. E. Wood
Aplin	Oliver	.....	7	72.2	.....	99	26	46	*17	40	0.94	.....	0.63	0	3	20	10	1	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	73.2	+4.9	104	26	41	23	47	2.07	−0.42	1.31	0	5	27	3	1	se.	R. C. Miles
Beach	Golden Valley	2,576	8	72.7	.....	105	20	40	17	47	0.41	.....	0.15	0	4	22	8	1	nw.	D. J. Steiner
Belfield	Stark	2,583	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Russell
Berthold Agency	McLean	2,082	20	71.8	+2.9	a100	*20	a42	17	a44	0.94	−1.04	0.51	0	4	29	1	1	se.	C. W. Hall
Bismarck	Burleigh	1,674	40	73.3	+3.1	98	26	49	19	37	2.04	−0.10	1.20	0	10	22	6	3	se.	U. S. W. B.
Bottineau	Bottineau	1,638	22	73.4	+7.7	102	*26	41	17	43	1.79	−0.76	0.47	0	11	13	13	5	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	70.8	.....	101	26	41	17	42	2.61	.....	0.69	0	8	23	5	3	.....	G. H. Phelps
Buford	Williams	1,944	35	73.0	+3.6	100	27	44	17	45	0.96	−0.74	0.55	0	4	11	15	5	ne.	C. H. McCune
Cando	Towner	1,488	13	c70.7	+6.1	c100	27	c40	22	c52	1.17	−1.72	0.84	0	3	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	2	70.8	.....	95	25	42	19	42	1.53	.....	0.98	0	4	25	5	1	e.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	2.17	.....	0.96	0	7	26	3	2	s.	H. P. Rice
Crosby	Divide	1,954	7	c71.2	.....	c98	*26	c45	22	c44	2.42	.....	1.01	0	5	.....	.....	.....	sw.	W. D. Crouch.
Devils Lake	Ramsey	1,482	10	71.8	+3.7	96	27	48	17	33	1.63	−2.15	0.93	0	7	17	10	4	s.	U. S. W. B.
Dickinson	Stark	2,543	22	71.4	+3.5	100	20	43	31	49	5.50	+3.22	4.03	0	6	9	19	3	sw.	L. R. Waldron
Donnybrook	Ward	1,760	15	69.5	+4.0	95	27	a41	17	a39	3.00	+0.04	1.04	0	8	24	5	2	sw.	C. J. DeVore
Dunseith	Rolette	.....	18	69.4	+5.5	97	27	42	22	39	2.97	+0.56	1.12	0	12	18	6	7	sw.	C. E. Goodsell
Eckman	Bottineau	.....	9	70.2	.....	99	*26	40	17	49	0.99	.....	0.54	0	8	22	8	1	sw.	J. Nussbaum
Edgeley	LaMoure	1,468	13	72.2	+3.8	99	25	43	23	54	2.60	−0.06	1.06	0	6	14	7	10	se.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.38	0	2	21	8	2	s.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	2.93	.....	1.73	0	3	22	7	2	se.	M. E. Uggen
Fessenden	Wells	1,610	2	70.8	.....	97	27	43	23	45	1.46	.....	0.54	0	6	23	4	4	se.	G. T. Seymour
Forman	Sargent	1,249	22	74.2	+5.0	99	26	46	23	40	2.23	−0.69	0.57	0	6	18	10	3	nw.	A. Maltby
Fullerton	Dickey	1,439	16	73.0	+5.2	98	*25	46	23	44	2.41	−0.86	1.20	0	5	21	10	0	s.	F. O. Alin
Garrison	McLean	1,901	19	71.0	+3.1	100	26	44	17	44	2.01	−0.34	1.36	0	3	15	16	0	se.	G. L. Robinson
Goodall	McKenzie	.....	.....	70.7	.....	98	*26	43	17	52	0.86	.....	0.53	0	4	24	4	3	w.	C. H. Layman
Grafton	Walsh	827	22	71.2	+3.8	a96	9	a46	19	a41	1.75	−0.78	1.01	0	7	.....	.....	.....	s.	A. R. T. Wylie
Granville	McHenry	1,504	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson
Hannah	Cavalier	1,568	9	68.8	.....	96	*26	41	17	46	1.67	.....	0.61	0	4	16	14	1	s.	J. Moffatt
Hansboro	Towner	1,597	6	72.8	.....	107	26	42	22	46	1.59	.....	0.50	0	5	10	20	1	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6	71.9	.....	100	*21	42	17	38	4.22	.....	3.27	0	6	22	3	6	se.	W. R. Lanxon
Hillsboro	Traill	901	8	72.6	.....	94	9	51	*17	36	4.14	.....	1.57	0	11	26	4	1	se.	F. E. Mayall
Howard	Williams	2,275	5	69.3	.....	97	27	36	9	55	2.09	.....	1.10	0	5	6	21	4	sw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	73.1	+4.9	100	9	40	1	47	2.57	−0.25	1.37	0	9	19	2	10	se.	T. Pettigrew
Lakota	Nelson	1,579	13	c70.4	+5.4	c94	27	c44	23	c43	2.54	−0.37	0.38	0	8	.....	.....	.....		C. R. Pettes
Lamoine	Kidder	.....	6	69.8	.....	93	*20	45	23	40	2.51	.....	0.83	0	5	13	11	7	se.	E. V. Virgin
Langdon	Cavalier	1,615	18	69.8	.....	95	27	43	1	40	1.69	.....	0.65	0	8	24	6	1	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	71.8	+5.6	93	27	48	23	35	1.62	−1.41	1.05	0	9	21	4	6	sw.	G. G. Graham.
Lisbon	Ransom	1,091	10	74.2	+6.5	101	15	45	23	46	4.37	+1.02	2.02	0	7	20	5	6	nw.	W. S. Adams
McHenry	Foster	1,509	4	73.4	.....	98	27	49	22	41	2.72	.....	0.90	0	4	16	11	4	s.	P. E. Truden
McKinney	Renville	1,640	20	71.2	+5.5	100	*20	40	22	49	2.25	+0.18	0.86	0	6	15	16	0	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	72.0	.....	96	20	44	23	43	3.22	.....	1.77	0	6	30	1	0	s.	M. Reinholt
Mandan	Morton	1,644	1	73.4	.....	a97	*25	49	19	39	1.32	.....	0.58	0	9	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	11	72.5	+6.4	100	27	43	23	52	1.02	−1.44	0.61	0	3	21	7	3	nw.	P. B. Anderson
Marmarth	Billings	.....	5	72.1	.....	101	26	43	17	52	0.82	.....	0.37	0	4	20	8	3	w.	S. P. Grane
Marstonmoor	Stutsman	.....	5	70.7	.....	95	* 9	36	23	52	3.22	.....	1.70	0	5	19	10	2	se.	H. H. McCumber
Mayville	Traill	975	18	74.5	+5.4	101	* 9	46	*22	40	1.96	−1.40	0.60	0	6	26	2	3	s.	W. C. Gould
Melville	Kidder	1,590	16	d71.0	+3.3	d102	* 9	d48	* 1	d48	3.84	+1.01	1.38	0	6	.....	.....	.....	se.	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	2.35	.....	0.85	0	4	15	13	3	s.	Hj. Edman
Minot	Ward	1,557	18	72.4	+4.4	99	26	41	17	43	1.32	−0.64	1.06	0	4	23	2	6	se.	B. L. Faris
Minto	Walsh	820	21	72.8	+5.7	98	27	47	23	47	1.50	−1.29	0.92	0	7	20	7	4	se.	S. S. Marsh
Mott	Hettinger	2,424	7	74.6	.....	101	26	44	17	41	1.47	.....	0.40	0	5	18	9	4	se.	O. H. Opland
Napoleon	Logan	1,955	22	72.8	+4.7	109	26	41	23	54	3.24	+0.76	1.36	0	10	20	2	9	s.	C. J. Hoof
New England	Hettinger	2,400	20	72.9	+4.7	100	*20	46	18	44	2.24	+0.46	1.05	0	6	18	11	2	se.	J. M. Connolly
New Rockford	Eddy	1,531	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. V. N. Sundberg
New Salem	Morton	2,163	9	71.5	.....	97	26	46	17	41	0.69	.....	0.28	0	5	21	7	3	se.	J. Christiansen
Orange	Adams	2,586	5	73.6	.....	106	26	45	17	52	0.66	.....	0.58	0	2	20	9	2	se.	J. E. Goforth
Oriska	Barnes	1,270	9	73.8	.....	98	* 9	48	* 2	47	2.55	.....	0.73	0	8	18	12	1	nw.	J. J. Taylor
Park River	Walsh	998	10	73.4	+6.1	95	27	48	16	43	1.85	−0.62	0.74	0	9	10	19	2	nw.	G. M. Hargrave
Pembina	Pembina	789	40	72.0	+4.6	102	27	48	* 7	39	2.85	+0.26	1.80	0	9	20	8	3	e.	C. W. Shumaker
Power	Richland	1,020	22	72.6	+3.9	94	*11	51	23	37	4.41	+1.06	1.46	0	7	22	7	2	se.	J. A. Power
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	3.14	.....	1.67	0	5	25	2	4	se.	R. E. Sheriff
Steele	Kidder	1,857	17	75.4	+6.8	100	26	53	17	31	5.22	+2.56	3.80	0	5	17	13	1	nw.	H. S. Wood
Towner	McHenry	1,482	12	72.6	+6.5	100	*26	45	*17	43	1.06	−1.48	0.71	0	3	10	18	3	w.	B. Bagley
Turtle Lake	McLean	1,899	2	70.0	.....	100	26	45	17	39	0.82	.....	0.36	0	4	23	5	3	se.	E. G. Ranum
University	Grand Forks	830	22	71.4	+4.2	95	9	49	17	33	4.33	+1.74	1.53	0	10	21	7	3	se.	U. S. W. B.
Wahpeton	Richland	962	29	72.0	+2.8	100	27	47	19	50	2.75	+1.31	1.41	0	7	16	9	6	se.	F. E. Smith
Walhalla	Pembina	966	7	.....	.....	.....	.....	.....	.....	.....	2.44	.....	1.41	0	11	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	74.1	.....	97	*27	47	18	39	0.76	.....	0.47	0	3	.....	.....	.....	.....	K. Klein
Westhope	Bottineau	1,508	8	70.0	.....	19	*26	40	22	44	1.62	.....	0.50	0	8	19	11	1	se.	C. M. Condit
Williston	Williams	1,875	35	73.2	+3.8	98	27	46	17	40	2.32	+0.29	1.32	0	6	13	14	4	se.	U. S. W. B.
Willow City	Bottineau	1,471	22	70.1	+4.7	103	26	37	21	55	1.76	−0.41	0.70	0	9	14	17	0	s.	M. A. Ostby
Zap	Mercer	.....	1	71.2	.....	98	26	42	17	40	1.20	.....	0.85	0	5	20	10	1	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	73.1	+4.4	95	27	51	23	36	3.65	−0.09	1.58	0	9	27	2	2	se.	U. S. W. B.
Averages		.....	.....	72.1	+4.5	109	26	36	* 9	55	2.31	−0.36	4.03	0	6	19	9	3	se.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for July, 1914.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red	.30					T.				T.					1.30	T.						.70				T.	.12			1.40		3.82
Aplin	Knife					.63		T.				T.													T.				.19	.12			0.94
Ashley	Missouri			.48			.15										.13											*	1.31		T.			2.07
Beach	Lit. Missouri										.15	.08										.14							T.	.04			0.41
Belfield	Heart																																
Berthold Agency	Missouri					.34					.06	T.									T.	.51				T.		.03					0.94
Bismarck ***	Missouri	.03	T.			.08		.04			.20	.02	T.		T.	.09									.03		.35		.03	1.17			2.04
Bottineau ‖ ‖	Mouse	.10					.15		.17		.46	.01	.02			T.		.01	.47			T.	.04		.02					.34	T.		1.79
Bowbells ‖ ‖	Mouse	.07					.43				.38	.35	T.		.30	.69						.03								.36			2.61
Buford	Missouri										.20					.16													.55	.05			0.96
Candо	Sheyenne	.08					.84					T.								.25														1.17
Carson	Heart				.04						.35				T.											.16		T.		.98			1.53
Colgate	Sheyenne						.18									.34	.03					.60				.04				.96	.02		2.17
Crosby	Mouse									.82	.23	.29	T.		.07	T.	T.												1.01				2.42
Devils Lake ***	Sheyenne				.93						T.				.04		.01	T.	.24						.07	.01				.33			1.63
Dickinson	Heart		.04	.11		T.					.13	T.			T.							T.		T.		1.16		4.03	.03			5.50
Donnybrook	Mouse					.18					.54	.27	.13		.13	.06	T.					T.		.65					1.04			3.00
Dunseith	Mouse						.71	.01	.11		1.12	.01			.10	.04	.03	T.	.46			.13		.02						.23			2.97
Eckman	Mouse					.15			.02			.01	.15		.03		T.					.05		.04					T.	.54			0.99
Edgeley	James						.38				.02					.57										1.06		.10			.47		2.60
Energy	Missouri					.29		T.							T.							T.			T.				.38				0.67
Epping	Missouri											1.14				T.					.06								1.78				2.93
Fessenden ‖ ‖	James	.15					.54		T.		.02		T.			.20	T.						T.				T.			.51	.04		1.46
Forman	Sheyenne						.28									.34	.57											.54	.02		.48		2.23
Fullerton	James	T.	T.				.12									.35										1.20		.06		T.	.68		2.41
Garrison	Missouri					.63		T.			.02		T.									1.							T.	1.36			2.01
Goodall	Missouri					.05						.53				.05														.23			0.86
Grafton ‖ ‖	Red						.25									.16	.20		.02			1.01				.03					.08		1.75
Granville	Mouse																																
Haley	Grand																																
Hannah	Pembina					.39					.61				T.										.38	T.						.29	1.67
Hansboro	Red					.40					.50											.17		.40	.12								1.59
Hettinger	Grand	.04				.65				.11																T.			.11	3.27	.04		4.22
Hillsboro	Red						1.57						.11			.65	.70					.10	.26			.03	.06	.02		.55	.09		4.14
Howard	Missouri	T.				T.	T.	T.		1.10	.06	.33									T.								.40	.20			2.09
Jamestown ‖ ‖	James						.15				.09					.52		.02	T.		.07						.22	.03		.10	1.37		2.57
Lakota	Sheyenne		.35				.38								.15	.62		T.	T.			.31			.28	.20				.25			2.54
Lamoine	Missouri					.83					.11				.58											.16	T.			.83			2.51
Langdon ‖	Pembina						.44				.07	.01		.02									.26		.65	.31			.02				1.78
Larimore ‖ ‖	Red			.02			1.05				.01					.11	.15	.01	.04			.03									.20		1.62
Lisbon ‖ ‖	Sheyenne	T.					.30				.06					.32	.92		.23				T.				.52	T.			2.02		4.37
McHenry	James					.46										.80			T.						.90					.56			2.72
McKinney	Mouse					.10				.21	.86			.28		T.	T.												*	.80			2.25
McLeod	Sheyenne						.19								.07	.50	.33										.36		T.		1.77		3.22
Mandan	Missouri	.01					.19		.04		.12	.02														.17		.18		.58		.01	1.32
Manfred	Sheyenne						.13								T.											.28				.61			1.02
Marmarth	Lit. Missouri										.10										T.					T.			.27	.37		.08	0.82
Marstonmoor	James	T.				T.	.40				.30				T.	.55										T.		.27	1.70				3.22
Mayville	Red						.33									.60						.33				.10				.53	.07		1.96
Melville	James						.98								.65	.05										.25		.53		1.38				3.84
Milnor	Red						T.									.38	.48										.85				.64		2.35
Minot ‖	Mouse	.05				.16						.05	T.									T.	T.							1.06			1.32
Minto	Red		T.			.18									.13	.10						.92			.04	.10				.03			1.50
Mott	Cannon Ball		.03			.36				.31																			.40	.34			1.47
Napoleon ‖ ‖	Missouri	.17		.03			.12				.10					.13	.04				.02							.37		.90	1.36		3.24
New England	Cannon Ball		.53			.20			.12		.29																		1.05	.05			2.24
New Rockford	James					.04					.12				T.											.17			.08	.28	T.		0.69
New Salem	Heart																																
Orange	Cannon Ball					T.																							.08	.58	T.		0.66
Oriska	Sheyenne						.37				.13		.01			.73						.08				.35	.15	.73					2.55
Park River	Red		T.			.45					T.		.07			.24	.04		.03			.74			.10	.14				.04			1.85
Pembina ‖ ‖	Red			.02			.40				.02		.08	.20		T.	.02	T.					.01		.20	.10			1.80				2.85
Power	Sheyenne						.40		T.		.36					92.	.16					.11				1.00					1.46			4.41
Ranger	Lit. Missouri							.09	.13	.21	T.																T.		1.04	T.		1.67	3.14
Steele	Mouse					.60					.15				.52	.15												T.		3.80				5.22
Towner	Missouri						.17											T.						.18						.71	T.		1.06
Turtle Lake	Red	.23				.21					.02											T.								.36			0.82
University	Red		.52			.85	.68						T.		.16	.15						1.34			.06	.07				.36		.14	4.33
Walhalla ‖ ‖	Pembina	.03					.51				.14												1.41				.27				.35	.04	2.75
Walhalla	Missouri			.08		.37					.04		.06			.04		.06				.13			.14	.04		.07				1.41	2.44
Washburn	Mouse					.27																								.47	.02		0.76
Westhope	Missouri					.02					.17	.12	.32			.09					.27			.13						.50			1.62
Williston ***	Pembina							.17		.08	.01	1.32			T.	.09					T.								.65				2.32
Willow City	Knife	.04				.70	.08		.20							.08			.15		T.		.03	.01									1.76
Zap	Missouri					.85		.02	T.	.01																			.18	.14			1.20
Moorhead, Minn ***	Red			T.			.29			.01			T.			1.58		.01				.18				.21	.04	.05		1.28			3.65

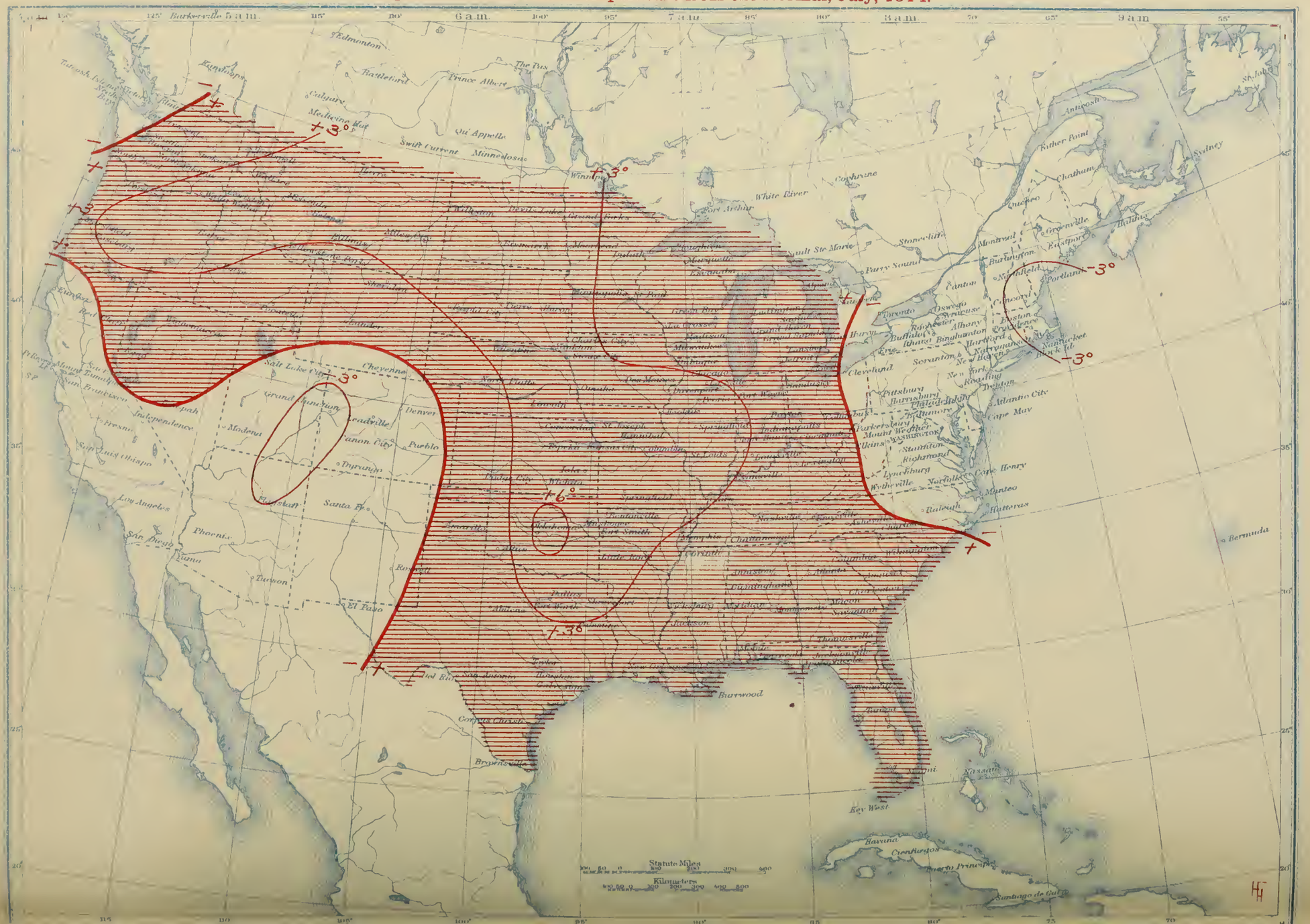
‖ Precipitation measured in the morning. Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.
* Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	80	80	94	92	89	84	83	84	99	93	95	84	92	88	95	77	75	83	91	91	90	82	86	88	95	94	100	90	74	88	90	87.9
	Minimum	45	55	65	57	64	70	54	54	60	63	71	66	65	60	61	57	53	51	51	54	55	50	50	50	58	60	65	64	65	63	59	58.5
Aplin	Maximum	80	85	80	86	85	77	80	88	93	88	84	78	83	87	87	72	77	76	87	98	80	82	88	94	96	99	97	81	89	88	87	85.5
	Minimum	62	57	57	55	64	57	59	62	65	65	63	62	54	63	60	53	46	52	50	58	60	46	54	58	62	60	60	66	65	65	64	58.8
Ashley	Maximum	79	84	85	86	86	78	79	90	96	97	92	77	88	91	95	77	78	80	88	96	90	74	88	94	99	104	92	89	87	88	87	87.5
	Minimum	51	54	60	56	63	50	53	58	53	68	65	64	58	60	67	55	53	50	45	81	67	55	41	50	61	63	65	64	67	64	63	58.8
Beach	Maximum	83	87	88	88	85	84	92	95	96	90	87	90	91	92	87	75	85	81	92	105	76	89	90	97	101	101	101	90	92	92	94	90.2
	Minimum	48	50	50	54	65	52	50	62	57	64	59	57	52	67	56	49	40	41	62	50	60	47	51	54	60	54	55	69	65	57	60	55.2
Berthold Agency	Maximum	83	86	87	88	84	78	82	92	97	90	84	82	—	89	85	72	78	78	89	100	88	84	89	93	98	100	99	85	90	93	90	a87.2
	Minimum	49	54	51	54	64	58	52	62	55	64	67	62	—	53	54	50	42	47	48	59	56	45	52	51	60	58	55	64	65	60	59	a55.9
Bismarck	Maximum	82	85	84	86	85	79	80	91	94	95	85	81	88	92	89	73	77	78	96	94	80	77	87	93	96	98	93	89	82	87	84	86.1
	Minimum	55	59	59	55	66	60	55	62	64	66	66	64	58	65	62	56	52	57	49	65	58	56	53	58	60	65	66	67	65	66	65	60.5
Bottineau §§	Maximum	82	88	89	88	91	78	77	93	95	78	78	84	91	87	88	70	76	78	89	98	77	85	91	94	95	102	102	94	88	90	92	89.9
	Minimum	46	54	58	57	62	56	50	57	56	61	64	62	57	62	57	50	41	50	49	56	68	42	52	55	60	61	65	68	66	66	58	57.0
Bowbells §§	Maximum	80	81	84	85	85	78	76	93	87	79	78	81	86	87	80	68	74	71	89	90	74	84	87	92	98	101	97	90	88	83	90	84.4
	Minimum	47	55	53	57	56	55	51	58	58	60	62	61	57	62	56	50	41	47	55	60	70	62	51	54	62	59	59	70	64	60	59	57.1
Carson	Maximum	80	84	83	85	81	78	80	88	92	90	85	78	84	90	86	73	70	75	84	86	82	78	86	92	95	92	83	86	85	87	87	84.0
	Minimum	53	54	54	50	67	60	48	60	57	65	65	62	52	66	62	55	45	53	42	58	65	51	45	52	54	67	67	68	66	64	63	57.7
Crosby	Maximum	80	95	—	—	—	87	81	91	90	82	75	83	87	89	81	69	78	80	75	91	82	86	86	92	95	98	98	92	89	85	90	c86.0
	Minimum	50	51	—	—	—	56	57	60	56	62	61	57	58	66	55	51	46	49	52	59	61	45	50	64	54	55	57	63	57	60	64	c56.3
Devils Lake	Maximum	78	84	84	85	87	72	74	87	94	83	86	79	88	86	90	71	72	75	83	95	80	80	89	92	86	93	96	89	76	83	86	84.0
	Minimum	51	58	64	58	66	58	52	59	68	67	62	64	60	66	62	54	48	55	56	62	54	50	56	59	64	63	65	64	66	65	56	59.7
Dickinson	Maximum	80	84	82	84	86	80	82	91	94	90	84	89	88	87	86	74	79	78	85	100	90	84	89	94	97	98	90	85	88	85	87	86.8
	Minimum	49	55	54	53	65	57	53	59	58	64	69	60	50	66	54	51	44	46	49	51	58	47	51	58	64	58	61	59	66	65	43	56.0
Donnybrook	Maximum	78	82	81	84	84	78	77	89	86	78	75	79	85	83	79	65	73	74	86	91	88	82	88	89	93	91	95	86	85	81	87	82.9
	Minimum	47	56	66	54	62	66	48	57	58	62	62	60	56	61	60	51	41	46	50	56	49	43	55	52	—	69	60	65	64	63	59	a56.1
Dunseith	Maximum	79	84	83	85	89	74	75	87	90	77	70	80	87	83	84	65	72	73	84	92	90	80	85	90	89	94	97	92	83	84	88	83.4
	Minimum	50	51	57	55	61	50	50	57	58	64	44	64	57	61	59	50	48	50	47	55	58	42	49	51	57	57	65	67	66	67	58	55.3
Edgeley	Maximum	79	84	86	87	88	81	77	86	95	93	93	83	87	90	91	81	73	79	87	94	91	79	88	94	99	96	92	88	85	87	85	87.0
	Minimum	53	53	60	57	61	64	54	49	56	68	65	64	61	55	67	55	53	48	49	53	63	50	43	46	45	63	68	61	67	65	63	57.4
Fessenden §§	Maximum	79	85	85	85	86	75	75	88	96	87	86	79	89	86	87	70	75	79	84	94	84	80	87	93	86	94	97	85	85	81	87	84.8
	Minimum	50	54	57	53	61	62	50	56	61	66	64	63	56	60	62	53	47	49	48	57	64	48	43	48	59	63	60	59	67	66	56	56.8
Forman	Maximum	78	85	86	87	87	81	78	85	93	92	94	98	86	88	92	83	72	79	83	91	92	74	86	91	95	99	94	91	86	85	89	86.8
	Minimum	54	56	60	61	68	66	56	55	62	72	77	65	64	58	68	53	55	51	50	58	69	57	46	53	59	65	89	66	68	66	65	61.7
Fullerton	Maximum	77	86	87	90	88	80	76	88	95	93	95	76	85	90	92	89	73	80	86	93	92	72	89	91	98	98	90	88	85	83	85	86.8
	Minimum	52	55	62	58	64	64	54	54	62	68	67	65	62	55	68	55	50	59	48	63	60	53	46	47	57	65	68	66	65	70	63	59.3
Garrison	Maximum	81	83	82	85	84	79	78	91	93	88	81	80	85	85	85	70	77	76	85	97	82	78	88	94	94	100	96	86	86	86	85	85.2
	Minimum	51	55	55	53	61	59	52	61	59	65	64	61	51	63	59	52	44	47	48	60	62	54	53	50	54	59	55	66	62	64	60	56.7
Grafton §§	Maximum	80	86	88	89	93	75	75	87	96	80	92	79	90	89	93	73	73	—	87	93	89	79	85	90	84	91	94	87	73	85	89	a85.5
	Minimum	47	51	58	53	62	65	49	56	63	67	62	65	61	59	68	54	48	51	46	—	62	47	48	52	57	55	66	61	63	64	65	a57.0
Granville	Maximum																																
	Minimum																																
Hannah	Maximum	81	80	85	87	90	74	75	81	90	84	81	89	90	91	85	74	64	84	87	94	84	84	95	84	86	96	96	90	85	90	86	85.2
	Minimum	46	53	54	55	57	49	50	51	57	62	50	48	54	60	59	50	41	45	52	53	52	42	49	45	54	56	61	60	58	56	60	52.5
Hettinger	Maximum	72	78	87	84	86	88	80	84	90	94	95	86	81	90	88	89	76	80	80	89	100	80	80	90	96	96	100	95	90	87	86	87.0
	Minimum	46	53	50	50	65	56	56	56	54	64	69	59	49	68	59	55	42	50	44	64	62	53	52	58	63	55	64	57	65	64	65	56.8
Hillsboro	Maximum	78	83	89	88	89	82	74	84	94	93	93	90	86	86	89	89	72	78	83	90	90	77	82	86	89	90	93	92	85	85	85	85.9
	Minimum	54	65	58	66	62	67	54	56	61	69	66	67	64	61	69	62	51	51	52	54	64	52	52	53	53	61	65	63	64	63	57	59.3
Howard	Maximum	83	84	86	86	83	73	82	89	91	82	82	83	84	78	66	77	77	82	81	92	80	85	86	90	94	93	97	90	90	85	91	84.6
	Minimum	48	55	53	58	58	67	53	60	36	63	55	54	59	52	84	41	44	57	58	56	56	48	47	50	52	50	53	63	63	67	63	54.0
Jamestown §§	Maximum	80	86	89	90	88	82	82	88	100	93	93	79	91	91	94	77	75	84	89	98	92	85	90	97	99	98	98	88	78	89	88	88.7
	Minimum	40	50	50	57	63	64	53	57	60	66	66	64	60	58	65	58	50	50	48	56	62	52	43	57	56	63	66	62	66	65	63	57.5
Lakota	Maximum	78	82	92	82	87	79	79	84	92	82	88	—	87	86	87	69	70	73	83	91	85	87	87	90	82	93	94	87	87	—	—	c84.1
	Minimum	50	49	57	56	67	69	48	57	61	65	61	—	53	56	65	52	56	54	47	55	59	50	44	49	61	56	60	60	67	—	—	c56.6
Lamoine	Maximum	78	81	80	85	83	77	75	87	92	90	79	76	85	88	86	86	72	74	83	93	81	80	85	91	86	93	93	82	79	82	83	82.8
	Minimum	52	55	56	52	62	60	49	58	66	65	64	61	54	62	60	53	48	48	46	67	46	46	45	53	56	61	60	65	69	63	60	56.8
Langdon	Maximum	76	89	82	86	89	70	73	85	89	74	81	76	88	86	92	68	71	75	87	94	86	82	90	86	84	92	95	89	77	80	87	83.2
	Minimum	43	53	59	51	64	63	44	51	63	64	61	64	55	56	64	53	44	50	47	55	65	45	50	55	58	57	68	65	66	65	53	56.5
Larimore §§	Maximum	78	81	86	86	89	82	75	83	95	81	90	77	85	85	91	70	68	76	83	90	89	76	83	88	85	91	93	88	74	81	85	83.4
	Minimum	56	58	62	62	65	66	52	60	65	68	66	65	60	70	68	57	50	57	51	57	65	52	48	56	62	56	65	65	60	65	56	60.2
Lisbon §§	Maximum	87	87	90	92	90	84	83	89	100	94	94	83	90	90	101	75	78	77	88	75	95	74	87	94	98	100	96	90	85	90	90	89.3
	Minimum	54	52	60	57	60	65	55	55	57	65	64	68	63	65	68	62	54	55	52	58	61	50	45	48	55	60	68	61	63	65	63	59.0
McHenry	Maximum	81	86	83	89	89	74	79	89	93	92	91	89	90	90	91	70	73	75	80	95	86	82	89	94	83	94	98	90	80	82	88	89.1
	Minimum	51	56	59	58	65	62	53	59	62	66	65	64	58	64	60	52	49	51	50	54	56	47	49	55	59	60	61	69	62	64	52	57.8
McKinney	Maximum	84	90	88	84	90	80	80	92	91	90	89	86	90	86	79	78	76	80	91	100	95	87	90	99	99	99	100	90	91	89	90	88.8
	Minimum	46	53	53	60	56	48	46	55	65	64	55	60	44	45	44	44	44	45	47	53	58	40	52	50	59	60	56	58	67	65	65	53.5
Manfred	Maximum	89	89	84	88	89	79	79	92	96	89	86	80	92	88	92	73	77	80	90	98	88	87	95	98	93	97	100	85	86	85	88	88.1
	Minimum	50	55	58	54	64	65	47	58	59	58	65	63	57	60	60	53	57	48	47	57	60	48	43	50	61	64	59	60	67	68	59	56.9
Marmarth	Maximum	82	86	84	87	84	83	94	92	97	91	89	84	93	93	86	76	68	68	92	99	83	84	89	95	97	101	98	84	88	88	82	87.6
	Minimum	50	50	52	54	65	56	54	62	61	64	64	57	55	68	61	53	43	48	46	47	60	54	51	55	58	61	62	61	62	65	62	56.6
Minot §§	Maximum	81	86	84	89	86	80	80	92	95	86	78	82	90	88	90	73	76	72	90	96	77	84	91	95	95	99	88	84	87	85	89	86.4
	Minimum	50	51	59	54	59	65	51	60	65	66	62	69	56	63	60	63	41	47	52	59	70	45	57	56	59	56	61	62	65	66	60	58.4
Mott	Maximum	82	91	83	82	86	81	83	92	95	90	88	81	92	94	90	75	80	80	89	100	80	84	91	85	99	101	97	93	86	88	90	88.1
	Minimum	58	52	51	55	60	51	66	68	73	67	59	58	51	67	68	53	44	47	48	59	63	60	65	67	70	74	75	70	67	62	64	61.0
Napoleon §§	Maximum	81	85	86	90	88	80	81	90	101	96	87	80	91	94	93	75	78	82	91	99	89	82	95	100	102	109	96	92	83	87	90	89.5
	Minimum	51	52	57	58	58	61	46	58	56	65	64	62	53	57	66	54	49	46	45	56	60	49	41	47	53	62	65	61	65	60	62	56.1
New England	Maximum	82	84	88	84	78	84	84	91	95	92	87	87	91	90	84	82	81	81	92	100	93	88	93	97	100	98	95	90	84	87	87	88.7
	Minimum	51	51	52	52	52	52	52	52	62	65	62	61	60	56	60	58	54	46	48	60	66	52	52	54	62	62	62	62	65	66	63	61	57.1
New Rockford	Maximum																																
	Minimum																																
New Salem	Maximum	82	83	81	85	83	80	79	89	93	92	84	79	81	87	89	72	71	75	85	96	79	79	87	94	96	97	94	82	88	88	88	85.1
	Minimum	52	54	56	55	61	70	51	59	64	65	65	62	54	56	62	54	46	54	50	55	63	51	51	55	60	56	61	65	64	65	60	57.9
Orange	Maximum	81	86	87	87	83	82	81	91	92	98	89	80	90	95	91	80	80	81	89	98	97	91	92	97	104	106	97	95	89	87	91	89.7
	Minimum	47	54	52	54	65	57	54	57	59	64	70	60	50	58	60	55	45	51	46	67	57	52	47	60	61	55	66	68	65	65	63	57.5
Oriska	Maximum	81	86	92	94	87	76	80	87	98	94	95	86	89	86	96	83	75	79	86	94	93	86	90	95	94	96	98	86	79	86	91	88.3
	Minimum	54	48	68	64	64	60	54	50	58	65	63	65	63	65	67	65	60	53	58	56	55	49	49	48	62	65	68	66	56	63	58	59.3
Park River	Maximum	87	90	92	94	88	90	90	92	94	90	90	88	90	88	92	76	71	78	86	94	90	91	87	91	84	93	95	90	84	82	88	88.2
	Minimum	51	58	60	60	58	61	59	62	69	68	61	65	61	66	67	48	49	56	50	51	56	52	50	56	61	55	67	59	61	67	52	58.6
Pembina §§	Maximum	87	92	94	93	91	74	81	88	94	81	90	74	91	84	91	64	71	86	88	92	86	86	81	82	91	92	102	88	82	82	88	85.1
	Minimum	51	53	62	67	67	63	48	58	61	61	62	61	54	62	63	51	48	51	61	64	69	51	54	57	54	61	66	61	61	61	56	58.9
Power	Maximum	74	81	84	88	82	82	80	85	93	88	94	80	85	87	82	80	74	80	83	84	92	84	86	92	94	94	92	78	79	84	86	84.6
	Minimum	54	58	61	67	66	67	58	60	66	70	71	64	62	53	59	66	56	54	54	54	56	52	51	56	57	66	61	61	62	63	62	60.7
Towner	Maximum	81	85	84	85	88	78	77	92	95	92	81	83	90	87	88	75	76	78	88	98	93	85	92	93	96	100	100	98	86	86	94	87.9
	Minimum	49	55	57	55	63	59	47	60	60	67	63	63	54	61	60	55	45	49	50	55	67	45	52	54	58	58	58	62	66	66	60	57.2
Turtle Lake	Maximum	78	83	82	84	84	76	79	89	93	88	81	79	86	83	87	72	76	76	86	98	86	82	90	95	94	100	97	84	86	86	87	85.3
	Minimum	53	57	58	54	55	61	50	62	59	66	65	61	56	64	62	53	45	49	50	59	66	47	51	62	60	61	58	62	65	66	59	54.7
University	Maximum	77	82	86	85	88	77	74	83	95	82	93	77	86	86	91	72	70	78	84	90	89	77	82	87	84	88	92	86	73	83	86	83.3
	Minimum	51	64	59	59	64	54	53	58	65	70	68	66	63	63	70	56	49	54	52	58	67	51	51	56	58	58	64	64	63	63	53	59.5
Wahpeton §§	Maximum	75	78	81	85	90	89	81	74	82	93	90	94	81	82	86	92	77	67	80	83	92	92	71	81	87	91	98	100	92	81	83	85.1
	Minimum	52	55	58	56	58	66	54	56	64	68	70	65	65	62	69	59	50	50	47	55	63	56	50	53	58	48	60	65	63	64	64	58.8
Washburn	Maximum	82	89	84	85	84	79	—	93	96	91	90	90	91	85	90	—	—	78	86	—	—	—	—	86	95	96	97	97	89	75	90	88.2
	Minimum	54	56	59	57	66	63	—	54	63	68	67	63	58	66	65	—	—	47	54	—	—	—	—	59	61	62	64	63	60	51	63	60.0
Westhope	Maximum	82	84	84	84	88	76	75	90	91	78	76	82	86	83	82	71	75	76	87	93	84	84	87	91	95	99	99	92	87	86	90	85.0
	Minimum	47	53	55	53	62	52	45	56	55	62	62	61	56	60	56	51	41	49	47	58	56	40	47	51	55	60	62	65	66	65	58	55.0
Williston	Maximum	81	87	87	88	86	80	85	92	95	85	82	84	88	90	81	68	79	79	92	96	76	86	87	93	97	96	98	85	89	86	86	86.8
	Minimum	54	59	59	59	68	58	58	65	62	66	63	58	62	70	58	53	46	49	57	63	58	52	59	53	58	58	58	69	68	62	62	59.7
Willow City	Maximum	79	84	84	86	85	75	76	89	92	80	76	81	89	86	88	68	75	76	97	88	83	90	93	93	103	101	95	86	86	89	86	86.0
	Minimum	41	50	53	49	65	58	47	58	69	65	62	63	53	54	58	43	42	50	42	61	37	45	46	54	55	58	57	61	65	66	52	51.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Departure of the Mean Temperature from the Normal, July, 1914.


+3°
+3°
+3°
+3°
+6°
+3°
-3°
-3°
-3°
+1.38
Statute Miles
Kilometers
Edmonton
Calgary
Medicine Hat
Swift Current
Prince Albert
The Pas
Winnipeg
White River
Cochrane
Port Arthur
Sault Ste Marie
Parry Sound
Toronto
Ottawa
Montreal
Quebec
Father Point
Chatham
Sydney
St. John
Portland
Boston
Albany
Buffalo
Rochester
Cleveland
Pittsburg
Philadelphia
Baltimore
Washington
Atlantic City
Cape May
Cape Henry
Norfolk
Raleigh
Hatteras
Bermuda
Salt Lake City
Cheyenne
Denver
Leadville
Pueblo
Grand Junction
Modena
Fresno
Independence
Los Angeles
San Diego
Phoenix
Yuma
Tucson
El Paso
Santa Fe
Albuquerque
Amarillo
Abilene
Fort Worth
Dallas
Austin
San Antonio
Corpus Christi
Brownsville
Galveston
Houston
Shreveport
Little Rock
Memphis
Vicksburg
New Orleans
Mobile
Montgomery
Atlanta
Chattanooga
Nashville
Louisville
Cincinnati
Columbus
Indianapolis
Chicago
Milwaukee
Detroit
Buffalo
Rochester
Albany
Boston
Portland
Concord
Manchester
Nantucket
New York
Hartford
Providence
Newport
Wilmington
Charleston
Savannah
Jacksonville
Tampa
Key West
Nassau
Havana
Cienfuegos
Santiago de Cuba
Burrwood
Kansas City
St. Louis
Omaha
Des Moines
Minneapolis
St. Paul
Duluth
Marquette
Escanaba
Milwaukee
Green Bay
La Crosse
Madison
Dubuque
Davenport
Rock Island
Peoria
Springfield
Quincy
Keokuk
Burlington
Grand Rapids
Toledo
Sandusky
Erie
Parkersburg
Huntington
Charleston
Lynchburg
Richmond
Petersburg
Norfolk
Wytheville
Roanoke
Knoxville
Asheville
Greenville
Columbia
Augusta
Macon
Montgomery
Meridian
Jackson
Vicksburg
Natchez
Shreveport
Monroe
Texarkana
Fort Smith
Little Rock
Pine Bluff
Helena
Miles City
Bismarck
Devils Lake
Grand Forks
Moorhead
Fargo
Huron
Yankton
Sioux City
Omaha
Grand Island
North Platte
Valentine
Rapid City
Pierre
Aberdeen
Williston
Minnedosa
Qu'Appelle
Battleford
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WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

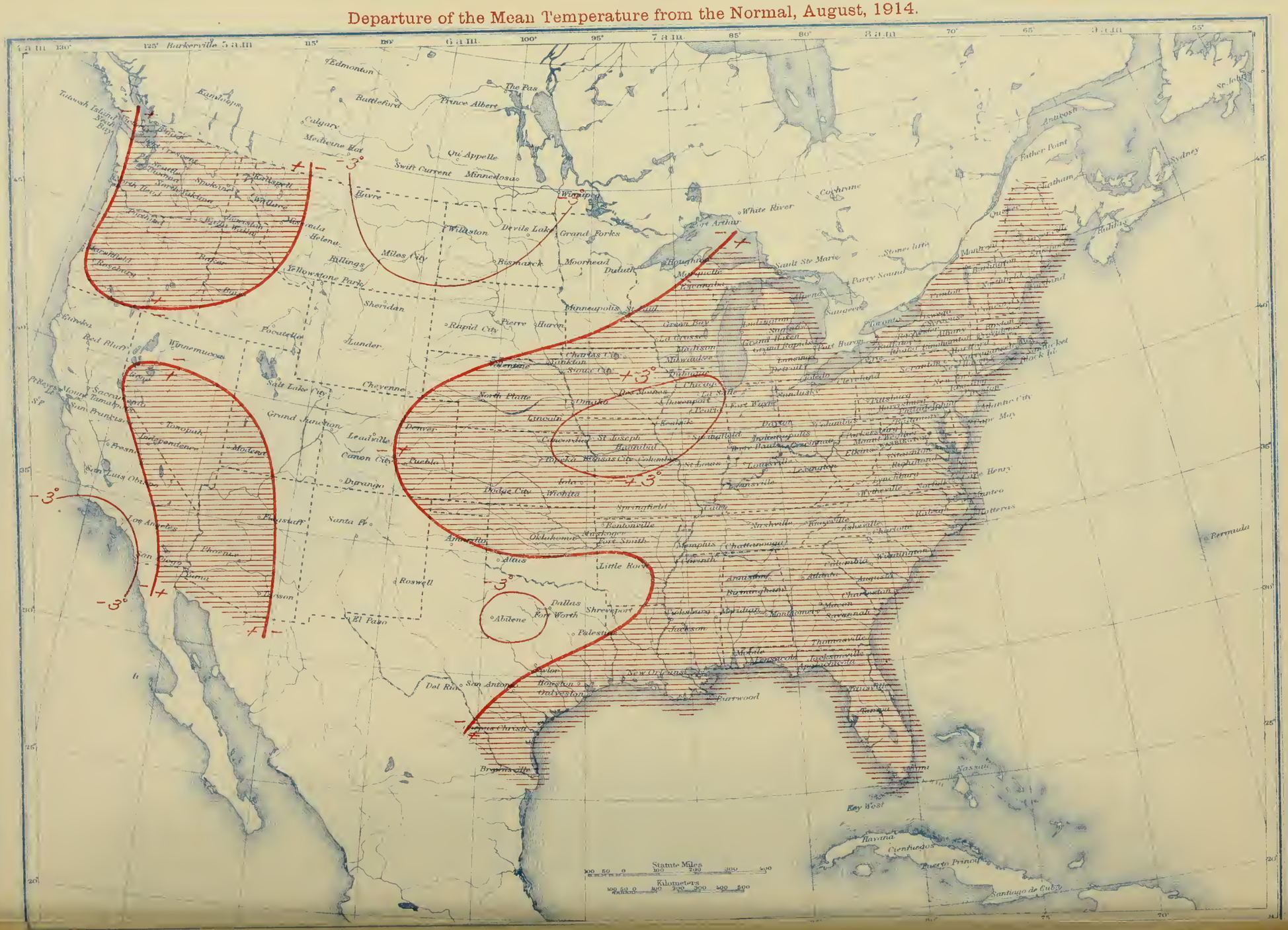
NORTH DAKOTA SECTION

AUGUST, 1914

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 24, 1914.

Departure of the Mean Temperature from the Normal, August, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., AUGUST, 1914. No. 8.

GENERAL SUMMARY.

Generally favorable weather prevailed throughout the State. Harvesting was well advanced at the close of the month, and considerable threshing done. During the first decade high temperatures were recorded, in many instances 100° or more. During the last decade frosts from light to killing occurred. From the 17th to the 25th, inclusive, rains interfered with both late harvesting and early threshing. The temperature for the month was slightly below the normal, and the precipitation was somewhat deficient. Pasture and hay lands show an exceptionally heavy growth of grass, insuring fine fall and winter feed on the range. Reports from the eastern part of the State show decreased wheat yields, due to rust.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.95 inches. The highest was 30.44 inches at Bismarck, Burleigh County, on the 26th; the lowest was 29.56 inches at Williston, Williams County, on the 30th.

TEMPERATURE.

The mean temperature for the State was 64.2°, or 1.3° below the normal, and 4.7° lower than the mean for August, 1913. The highest monthly mean reported was 67.6° at Forman, Sargent County; the lowest was 61.0° at Langdon, Cavalier County. The highest temperature reported was 101° at Buford, Williams County, and Hannah, Cavalier County, on the 3d, at Lisbon, Ransom County, on the 15th, and at Orange, Adams County, on the 7th; the lowest was 26° at Carson, Morton County, Marstonmoor, Stutsman County, and Napoleon, Logan County, on the 26th. The greatest monthly range was 74° at Hannah, Cavalier County, and Napoleon, Logan County; the least was 50° at Steele, Kidder County. The greatest daily range was 57° at Oriska, Barnes County, on the 15th, and at Towner, McHenry County, on the 6th. The first decade was the warmest, and the last decade was the coldest. Usually the highest temperature was recorded on the 3d or 4th, and the lowest on the 26th.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of four recording stations, was 70 per cent.

PRECIPITATION.

The average precipitation for the State was 2.18 inches, or 0.14 inch below the normal, and 0.44 inch lower than the average for August, 1913. The greatest monthly amount reported was 5.06 inches at Energy, McLean County; the least was 0.64 inch at McLeod, Ransom County. The greatest amount recorded in any twenty-four consecutive hours was 3.20 inches at Energy, McLean County, on the 24th. The average number of days with 0.01 inch or more of precipitation was seven. The distribution of rainfall was fairly uniform, both geographically and throughout the month. Particularly stormy periods were scattered showers 1st to 10th, inclusive, with heavier precipitation from the 17th to the 25th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 7.3 miles. The greatest wind movement was 6,971 miles at Devils Lake, an average of 9.4 miles per hour; the least was 4,290 miles at Williston, an average of 5.8 miles per hour. The maximum velocity for a period of five minutes was at the rate of 38 miles per hour from the west at Devils Lake on the 5th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 13, partly cloudy 11, and cloudy 7.

ERRATA, JULY, 1914.

Page 52: Lakota, greatest 24-hour precipitation should be 0.62 inch; Larimore, highest temperature and date should be 95° on the 9th; McLeod, mean temperature should be 72.5°; Mandan, highest temperature and date should be 99° on the 26th; Melville, mean temperature should be 72.8°; Pembina, number of days with .01 inch or more precipitation should be 10; Turtle Lake, mean temperature should be 71.6°.

Page 54: Berthold Agency, mean minimum should be 55.7°; Turtle Lake, mean minimum should be 57.9°.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	67.3	+1.8	105	24	2.29	−0.03
1893	66.7	+1.2	109	29	1.31	−1.01
1894	68.8	+3.3	102	30	0.38	−1.94
1895	64.5	−1.0	104	24	1.57	−0.75
1896	64.7	−0.8	107	21	1.39	−0.93
1897	64.1	−1.4	106	29	1.18	−1.14
1898	65.4	−0.1	104	24	1.69	−0.63
1899	65.2	−0.3	97	32	2.83	+0.51
1900	70.4	+5.1	114	33	5.06	+2.74
1901	66.9	+1.4	100	32	1.77	−0.55
1902	64.3	−1.2	96	26	2.30	−0.02
1903	63.7	−1.8	103	35	4.68	+2.36
1904	63.3	−2.2	102	31	1.67	−0.65
1905	67.5	+2.0	107	34	2.62	+0.30
1906	66.3	+0.8	105	31	1.90	−0.42
1907	64.5	−1.0	104	26	1.89	−0.43
1908	63.2	−2.3	104	25	2.28	−0.04
1909	69.8	+4.3	109	27	2.25	−0.07
1910	63.1	−2.4	109	24	1.41	−0.91
1911	62.2	−3.3	98	23	3.55	+1.23
1912	63.4	−2.1	118	32	2.95	+0.63
1913	68.9	+3.4	106	30	2.62	+0.30
1914	64.2	−1.3	101	26	2.18	−0.14

Climatological Data for August, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure, from the normal.	Greatest in 24 hours.	Snowfall unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	18	65.8	−0.4	95	15	35	26	43	2.51	−0.57	1.00	0	8	15	5	11	nw.	C. E. Wood
Aplin	Oliver		7	64.7	.....	a95	* 7	a28	26	a45	1.88	.....	0.72	0	6	.....	.....	.....	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	65.4	−0.7	100	15	32	26	45	1.64	−0.69	0.50	0	6	15	11	5	ne.	R. C. Miles
Beach	Golden Valley	2,576	8	65.2	.....	100	3	34	26	45	4.01	....	1.95	0	7	20	6	5	se.	D. J. Steiner
Berthold Agency	McLean	2,082	20	64.4	−3.7	a96	* 3	a29	26	a52	2.70	+0.97	1.57	0	6	18	6	7	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	64.5	−3.6	97	15	33	26	44	2.02	+0.04	0.46	0	13	10	14	7	se.	U. S. W. B.
Bottineau	Bottineau	1,638	22	64.0	+0.9	99	4	34	26	44	1.63	−0.34	0.86	0	6	11	8	12	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	61.5	.....	95	4	32	26	50	2.63	.....	1.20	0	7	18	3	10	.....	G. H. Phelps
Bowman	Bowman	.....	.....	65.9	.....	98	7	c34	26	c44	1.23	.....	0.52	0	3	.....	.....	.....	.....	L. S. Diehl
Buford	Williams	1,944	35	65.4	−1.5	101	3	35	26	46	3.34	+2.02	2.40	0	5	8	18	5	nw.	C. H. McCune
Cando	Towner	1,488	13	g64.9	+2.9	g98	4	g32	26	g47	2.72	+0.19	0.85	0	8	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	2	63.6	.....	94	15	26	26	48	2.03	.....	0.40	0	9	17	12	2	e.	D. L. Basquin
Colgate	Steele	1,177	....	.....	.....	.....	.....	.....	.....	.....	1.54	.....	0.39	0	9	14	12	5	nw.	H. P. Rice
Crosby	Divide	1,954	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Crouch
Devils Lake	Ramsey	1,482	10	63.2	−1.9	94	4	35	26	41	2.06	−0.70	0.99	0	8	9	10	12	s.	U. S. W. B.
Dickinson	Stark	2,543	22	63.0	−3.6	93	7	31	26	39	2.05	+0.03	0.60	0	9	6	22	3	.....	L. R. Waldron
Donnybrook	Ward	1,760	15	62.8	−2.1	a91	* 3	31	26	a52	1.49	−0.85	1.12	0	3	18	9	4	nw.	C. J. DeVore
Dunseith	Rolette	.....	18	62.8	−0.7	95	4	35	26	39	2.21	−0.02	0.96	0	5	20	5	6	nw.	C. E. Goodsell
Eckman	Bottineau	.....	9	63.4	.....	97	4	30	26	56	2.14	.....	1.20	0	8	22	4	5	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	13	64.8	−1.7	96	15	33	26	43	1.90	−0.45	0.90	0	6	6	11	14	nw.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	5.06	.....	3.20	0	7	11	10	10	nw.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	2.87	.....	1.55	0	3	19	7	5	e.	M. E. Tiggen
Fessenden	Wells	1,610	2	62.6	.....	94	* 3	33	26	49	3.79	.....	0.98	0	10	8	15	8	nw.	G. T. Seymour
Forman	Sargent	1,249	22	67.6	0.0	99	4	33	26	45	0.75	−2.22	0.38	0	6	13	9	9	nw.	A. Maltby
Fullerton	Dickey	1,439	16	64.6	−1.5	97	15	34	26	45	1.20	−1.72	0.42	0	7	10	16	5	nw.	F. O. Alin
Garrison	McLean	1,901	19	64.2	−1.6	94	15	30	26	47	2.30	+0.41	1.55	0	7	11	14	6	nw.	G. L. Robinson
Goodall	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Layman
Grafton	Walsh	827	22	63.0	−1.2	94	3	36	*24	41	3.87	+1.47	1.71	0	12	21	8	2	se.	A. R. T. Wylie
Granville	McHenry	1,504	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson
Hannah	Cavalier	1,568	9	61.6	.....	101	3	27	26	48	1.14	.....	0.71	0	4	16	10	5	nw.	J. Moffatt
Hansboro	Towner	1,597	6	64.8	.....	a100	3	a33	*14	a50	1.57	.....	0.67	0	4	.....	.....	.....	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	8	64.8	.....	92	15	37	27	38	3.46	.....	1.41	0	12	18	10	3	nw.	F. E. Mayall
Howard	Williams	2,275	5	62.7	.....	97	3	30	26	51	2.78	.....	1.74	0	5	6	17	8	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	65.3	−0.9	98	3	36	26	47	2.29	−0.42	0.75	0	8	7	10	14	sw.	T. Pettigrew
Lakota	Nelson	1,579	13	62.2	−0.8	93	3	34	*11	46	1.65	−0.82	0.65	0	8	4	19	8	ne.	C. R. Pettes
Lamoine	Kidder	.....	6	62.8	.....	90	3	28	26	42	1.13	.....	0.82	0	4	12	13	6	se.	E. V. Virgin
Langdon	Cavalier	1,615	18	61.0	.....	95	4	32	26	49	2.77	.....	0.81	0	8	20	5	6	ne.	R. T. Burke
Larimore	Grand Forks	1,134	19	63.8	−0.2	95	4	36	26	40	2.61	−0.37	0.80	0	9	12	6	13	nw.	G. G. Graham
Lisbon	Ransom	1,091	10	67.2	+1.1	101	15	34	26	49	1.14	−0.78	0.35	0	6	17	3	11	nw.	W. S. Adams
McHenry	Foster	1,509	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Truden
McKinney	Renville	1,640	20	64.0	+0.8	f99	* 3	b29	26	52	2.37	+0.80	1.22	0	4	.....	.....	.....	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	67.0	.....	94	15	35	25	39	0.64	.....	0.24	0	7	29	2	0	s.	M. Reinholt
Mandan	Morton	1,644	1	64.9	.....	a96	15	32	26	39	1.32	.....	0.58	0	9	.....	.....	.....	.....	N. G. T. P. F. Sta.
Manfred	Wells	1,605	11	64.2	+0.5	93	* 3	32	26	49	3.53	+1.11	1.44	0	8	13	13	5	nw.	P. B. Anderson
Manning	Dunn	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.39	.....	1.13	0	3	.....	.....	.....	.....	A. J. Bretzaff
Marmarth	Billings	.....	5	64.3	.....	97	3	35	26	47	1.98	.....	1.36	0	6	14	10	7	nw.	S. P. Grane
Marstonmoor	Stutsman	.....	5	62.0	.....	a93	15	b26	26	52	0.97	.....	0.75	0	2	11	15	5	nw.	H. H. McCumber
Mayville	Traill	975	18	66.2	+0.2	96	*16	36	26	43	2.44	−0.79	0.68	0	8	18	4	9	nw.	W. C. Gould
Melville	Kidder	1,590	16	g65.8	−1.9	g97	* 1	c32	26	c44	2.07	−0.08	0.98	0	7	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.21	0	5	14	11	6	s.	Hj. Edman
Minot	Ward	1,557	18	63.9	+1.7	98	15	31	26	51	2.44	+0.20	1.55	0	4	13	11	7	nw.	B. L. Faris
Minto	Walsh	820	21	64.6	0.0	96	4	37	26	43	2.86	+0.22	0.80	0	10	13	9	9	se.	S. S. Marsh
Mott	Hettinger	2,424	7	66.6	.....	95	* 3	29	25	43	2.23	.....	0.81	0	9	15	6	10	e.	O. H. Opland
Napoleon	Logan	1,955	22	63.9	−2.3	100	*15	26	26	52	1.28	−1.23	0.25	0	10	7	6	18	nw.	C. J. Hoof
New England	Hettinger	2,400	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly
New Rockford	Eddy	1,531	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. V. N. Sundberg
New Salem	Morton	2,163	9	64.3	.....	97	15	30	26	39	1.51	.....	0.84	0	12	8	18	5	se.	J. Christiansen
Orange	Adams	2,586	5	65.3	.....	101	7	30	26	46	1.48	.....	0.45	0	6	17	12	2	ne.	J. E. Goforth
Oriska	Barnes	1,270	9	64.2	.....	96	15	36	26	57	1.47	.....	0.36	0	7	8	19	4	nw.	J. J. Taylor
Park River	Walsh	998	10	64.0	−1.6	97	21	37	26	46	2.66	0.00	0.71	0	11	14	12	5	nw.	G. M. Hargrave
Pembina	Pembina	789	40	61.2	−2.7	98	4	36	*24	43	1.56	−0.82	0.58	0	8	14	9	8	e.	C. W. Shunmaker
Power	Richland	1,020	22	64.4	−2.1	94	15	35	26	40	1.09	−1.29	0.25	0	9	9	13	9	se.	J. A. Power
Powers Lake	Burke	2,205	....	.....	.....	.....	.....	.....	.....	.....	3.24	.....	1.04	0	7	11	11	9	se.	C. Frank
Ranger	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	1.61	.....	0.87	0	7	20	0	11	nw.	R. E. Sheriff
Steele	Kidder	1,857	17	65.8	−0.5	94	15	44	26	39	0.92	−1.36	0.68	0	2	9	18	4	s.	H. S. Wood
Towner	McHenry	1,482	12	63.4	−0.6	a95	4	a32	26	a57	2.50	+0.13	1.41	0	7	.....	.....	.....	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	64.6	.....	b95	15	b32	26	44	3.51	.....	2.42	0	6	.....	.....	.....	w.	E. G. Ranum
University	Grand Forks	830	22	62.8	−2.0	93	4	39	*11	38	3.17	+0.54	1.29	0	8	6	12	13	nw.	U. S. W. B.
Wahpeton	Richland	952	20	65.5	−1.9	92	15	36	26	38	1.43	−1.80	0.35	0	10	15	8	8	nw.	F. E. Smith
Walhalla	Pembina	966	7	g65.4	.....	c94	3	d32	24	d41	1.67	.....	0.54	0	7	.....	.....	.....	n.	I. De L. Lee
Washburn	McLean	1,734	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	K. Klein
Westnope	Bottineau	1,508	8	63.4	.....	a98	4	a31	26	a52	2.19	.....	0.75	0	6	18	8	4	s.	C. M. Condit
Williston	Williams	1,875	35	64.1	−3.8	99	3	33	26	47	3.22	+1.91	2.10	0	7	6	16	9	se.	U. S. W. B.
Willow City	Bottineau	1,471	22	62.5	−1.3	96	4	30	26	50	2.49	+0.54	0.92	0	9	6	22	3	s.	M. A. Ostby
Zap	Mercer	.....	1	65.0	.....	94	* 7	31	26	42	2.64	.....	1.62	0	8	10	14	7	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	65.0	−0.9	93	15	39	26	35	2.89	−0.21	1.56	0	12	18	8	5	se.	U. S. W. B.
Averages				64.2	−1.3	101	* 3	26	26	57	2.18	−0.14	3.20	0	7	13	11	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for August, 1914.

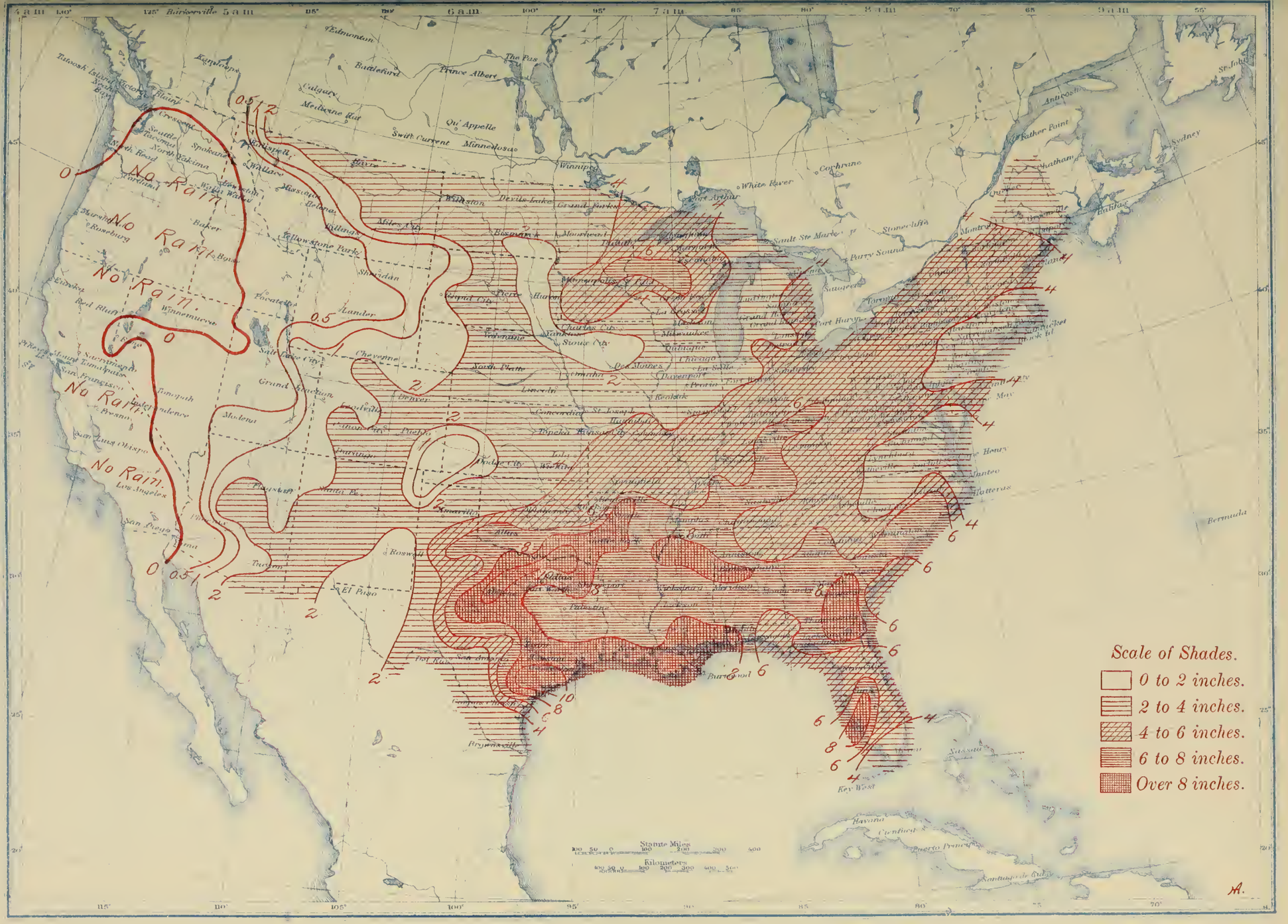
Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red					.15													.15		1.00	.06	.03	T.	.22	.15			.75	T.	T.	2.51
Aplin	Knife		.72		T.					.33			T.				T.	T.	.07	T.	T.			.68	.04		T.	*	T.		.04	1.88
Ashley	Missouri	T.			T.			.09				.08					T.	.50	.30	.36				.31								1.64
Beach	Lit. Missouri	1.95			T.					.16							.04		.90	.18	T.		.02		.76							4.01
Berthold Agency	Missouri		.57		.08				T.	T.								T.	T.	T.	.41		.03	T.	1.57	.04					T.	2.70
Bismarck ***	Missouri		.44		.12			.07	.01	.12			T.				.16	.32	.26		.11	.01	.04		.32					T.	.04	2.02
Bottineau ‖ ‖	Mouse					.01					T.								T.				.40	.31	.02	.86			.03	T.		1.63
Bowbells ‖ ‖	Mouse										.12		.05										1.20	.06	.16	1.00	.04					2.63
Bowman	Grand	.45																	.52						.26							1.23
Buford	Missouri		.15																.18	.15			.46		2.40							3.34
Cando	Sheyenne																			.08		.38	.85	.13	.70	.42			.07		.09	2.72
Carson	Heart		.31	T.		T.				.07	.05						.18	.12	.37	.27	.26				.40							2.03
Colgate	Sheyenne					.04				T.								.08	.16		.39		.20	.06	.38	.01			.22			1.54
Crosby	Mouse																															
Devils Lake ***	Sheyenne	.14						T.	T.	.05			T.					.09	T.	T.	.04	T.	.68		.83	.17			.06		T.	2.06
Dickinson	Heart		T.			.29				.15			T.						.60	.31	.08		.07		.45	.03					.07	2.05
Donnybrook	Mouse				T.													T.		T.			.37	T.	*	1.12						1.49
Dunseith	Mouse					T.				T.									T.				.96	.20	.87	.12					.06	2.21
Eckman	Mouse	.03			T.			.05										.01					.54	.05	1.20	.24			.02			2.14
Edgeley	James				.90	.03												.18	.26	.30					.23							1.90
Energy	Missouri		.29		T.			.20		.41								.16	T.	.40					3.20	.40						5.06
Epping	Missouri		.57															T.					.75		1.55							2.87
Fessenden ‖ ‖	James								.18	.38				T.					.14	.05	T.	.30	.44	.98	.38	.90	T.			.04		3.79
Forman	Sheyenne																	.02	.16	.12	T.		.38	.07	.10							0.75
Fullerton	James				.10			.04		T.		T.						.25	.03	.32			.64		.42							1.20
Garrison	Missouri		.42		T.			T.		.02									T.		.17		T.	.04	1.55	.05			T.		.05	2.30
Goodall	Missouri																															
Grafton ‖ ‖	Red	1.71				.17				.08	.05		.08				.34	.02					.09	.55					.05			3.87
Granville	Mouse																															
Hannah	Pembina								T.								T.						.36		*	.71					.07	1.14
Hansboro	Red																						.25		.40	.25					.67	1.57
Hettinger	Grand																															
Hillsboro	Red	.04				.03		T.					.08					.05		.05	.56		.63		.26	.03			1.41	.16		.16	3.46
Howard	Missouri		.35	T.					T.	T.		T.	T.					T.	T.	T.			.67	.01	1.74	.01					T.	2.78
Jamestown ‖ ‖	James					.12												.10	.25		.15		.55	.75	.20	.17						2.29
Lakota	Sheyenne							.05	.15							T.		.20	T.	T.	.08		.15	.15	.65	.22			T.		T.	1.65
Lamoine	Missouri	T.			T.				.17									.14	T.	T.			T.		*	.82			T.		T.	1.13
Langdon ‖	Pembina	.35							.01							.35							.81			.66	.02			.06		.51	2.77
Larimore ‖	Red	.05				.01													.37		.02		.80	.42		.72				.10		.12	2.61
Lisbon ‖	Sheyenne					.15			.15										.23					.35	.15	.11	T.		T.				1.14
McHenry	James																															
McKinney	Mouse																T.	T.				.80	.20	.15		1.22						2.37
McLeod	Sheyenne		.01					.04											.24			.02	.03		.22	.08						0.64
Mandan	Missouri	.01					.19		.04		.12	.02														.17		.18		.58		.01	1.32
Manfred	Sheyenne									.48								.20		.95	.13		.21	.40	1.14	.02					T.	3.53
Manning	Knife																		.12	.14					1.13							1.39
Marmarth	Lit. Missouri				.01					T.							T.	T.	1.36	.34			.05		.15						.07	1.98
Marstonmoor	James				T.			T.	T.	.22								T.	T.	T.	T.		T.	T.	.75	T.				T.	T.	0.97
Mayville	Red	.11								T.									.10		.10		.70		.30	.15			.68		.30	2.44
Melville	James									.20							.21					.20		.22	.98	.05			.21			2.07
Milnor	Red					.10		T.										T.	.15	.14	T.		.21	.20								0.80
Minot ‖ ‖	Mouse							T.												T.	T.		.03	.06	.80	1.55						2.44
Minto	Red	.80				.03				.14			.15					.10			.20		.55		.24	.33			.32			2.86
Mott	Cannon Ball	.45			.10					.02							.15	.81	.24	.25				.16				T.			.05	2.23
Napoleon ‖	Missouri												.07					.05	.20	.15	.20	.15	.10	T.	.25	.10		.01				1.28
New England	Cannon Ball																															
New Rockford	James																															
New Salem	Heart		.84		.01			.03		.05						.04	.05	.14	.02	.05		.03			.22	.03	T.					1.51
Orange	Cannon Ball	.36								.05		.02							.40	.20					.45							1.48
Oriska	Sheyenne							T.		T.									T.	T.	.32		.21	.07	.35	.05			.36	.11	T.	T.	1.47
Park River	Red	.71				T.		T.	.04		.07		.07				.03	.02			.20		.62	T.	.28	.58			.04	T.			2.66
Pembina ‖	Red	T.										.02					.24	.02					.26			.58	.04				.36		.04	1.56
Power	Sheyenne				T.			.18									.06	.22	.08	.15		.07	.02	.25	.06					T.		1.09
Powers Lake	Missouri		.60						T.		.01		T.					.02	T.	T.			1.04	.40	.95	.22			T.				3.24
Ranger	Lit. Missouri				.38					.05							.02		.87	.08			.10		T.	T.					.11	1.61
Steele	Missouri		T.		T.			T.		T.		T.						.24		T.			T.	T.	.68	T.			T.		T.	0.92
Towner	Mouse	.41						T.		T.								.04			T.		.17	.05	1.44	.31					.08		2.50
Turtle Lake	Missouri		.13						T.	.35			T.					.34	T.	.17	T.		T.		2.42	.10					T.	3.51
University	Red								T.	.03						.12		.29		T.	T.		1.29		.34	.36			.71		.03		3.17
Wahpeton ‖	Red					.35			.03				.03						.03		.04	.07		.30	T.	.28			.27		.03	1.43
Walhalla	Pembina				T.								.04			.15			T.		.04		.35			.54		.05			.50	1.67
Washburn	Missouri																															
Westhope	Mouse									.02	.03												.59	.75	.55	.25						2.19
Williston ***	Missouri	.36			T.				T.			T.						.04	T.	.05		.09	.58	.06	2.04							3.22
Willow City	Mouse	.03			.03			T.		T.							.15	.05					.42	.56	.92	.29					.04	2.49
Zap	Knife		.29		.23			T.		.32	T.							T.	.04		.04				1.62	.03					.07	2.64
Moorhead, Minn ***	Red				.10			.04								T.		.11	.01	.01			.54	.01	.22	.28			1.55	.01	.01		2.89

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	21	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	91	83	94	91	83	87	81	77	75	71	71	83	77	84	95	90	87	81	84	78	84	85	70	65	62	70	75	80	—	—	64	[b]79.9
	Minimum	63	55	53	60	63	50	57	60	50	48	41	43	46	41	55	55	62	60	57	53	50	60	54	45	45	35	43	45	53	48	57	51.8
Aplin	Maximum	87	83	91	92	80	87	95	82	71	65	72	76	78	88	95	94	78	68	81	80	84	88	—	58	57	65	67	78	79	90	74	[a]79.4
	Minimum	65	60	60	58	50	42	60	62	54	48	44	50	36	49	55	55	60	55	44	50	48	—	45	42	42	28	43	49	48	50	48	[a]50.0
Ashley	Maximum	81	84	95	90	88	86	92	88	68	68	65	80	76	87	100	93	84	75	77	76	80	84	71	63	56	61	58	80	80	87	83	79.2
	Minimum	68	54	58	64	65	49	55	62	50	45	42	42	44	46	55	55	61	58	51	55	46	52	53	46	44	32	46	51	48	45	54	51.5
Beach	Maximum	85	92	100	89	85	86	96	89	72	73	79	75	82	95	97	98	86	71	70	78	83	82	79	73	50	64	75	78	80	90	65	81.2
	Minimum	57	58	56	62	49	45	59	49	50	36	45	45	41	50	53	61	65	54	44	44	51	58	47	44	37	34	44	49	45	50	46	49.3
Berthold Agency	Maximum	91	86	96	94	79	89	96	80	73	69	79	—	80	90	96	93	78	70	85	80	85	80	71	59	57	68	70	75	79	90	78	[a]80.5
	Minimum	62	60	56	64	54	41	59	55	51	40	40	37	—	38	55	51	59	56	44	50	42	55	44	41	40	29	37	48	45	46	50	[a]48.3
Bismarck	Maximum	82	80	90	83	78	84	89	77	72	63	69	76	76	85	97	90	83	74	78	79	81	84	68	53	53	63	60	70	80	88	70	76.6
	Minimum	63	56	62	64	57	48	61	56	52	49	48	52	45	50	60	54	60	55	52	55	51	60	53	46	40	33	48	52	49	44	49	52.4
Bottineau §§	Maximum	90	96	98	99	80	85	94	83	73	75	75	80	76	85	91	92	79	76	82	87	86	77	58	44	58	67	65	77	78	86	65	78.9
	Minimum	64	55	57	63	48	41	56	50	45	41	45	49	39	44	52	57	59	54	59	52	50	55	44	42	40	34	38	44	47	46	49	49.0
Bowbells §§	Maximum	86	84	94	95	77	84	91	81	67	69	76	74	76	89	93	87	81	71	79	82	83	86	54	47	58	66	67	76	76	84	65	77.4
	Minimum	61	59	54	60	45	44	56	45	41	43	47	45	36	39	44	48	49	44	47	44	47	52	47	39	37	32	35	42	47	47	47	45.6
Carson	Maximum	80	81	93	88	78	84	92	79	72	65	68	76	77	85	94	92	80	72	76	75	80	82	76	64	55	54	62	70	78	88	82	77.4
	Minimum	62	57	60	59	52	42	62	53	52	46	48	50	36	48	58	52	61	56	45	52	47	60	46	47	42	26	47	51	41	49	47	49.8
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	82	82	93	94	78	81	87	79	72	66	70	79	73	80	92	88	67	76	82	79	84	76	58	47	53	65	63	66	77	84	67	75.5
	Minimum	60	54	62	67	57	50	56	58	54	44	40	50	44	39	58	53	56	49	56	57	53	58	47	41	39	35	42	48	51	51	47	50.8
Dickinson	Maximum	81	84	92	83	78	83	93	79	75	62	73	72	76	84	89	91	81	68	71	76	80	82	76	68	51	59	67	76	77	87	75	77.1
	Minimum	60	58	52	62	51	45	60	53	53	47	43	51	40	40	54	59	51	44	44	51	50	59	48	35	40	31	46	51	45	48	47	49.0
Donnybrook	Maximum	82	82	91	91	77	82	91	79	69	65	76	73	74	89	90	90	80	69	80	83	85	78	58	—	56	65	66	75	75	87	65	[a]74.9
	Minimum	65	60	55	66	49	45	54	51	45	45	36	50	39	37	60	60	54	44	51	49	46	54	47	41	39	31	37	50	54	41	48	48.3
Dunseith	Maximum	85	84	94	95	77	80	91	82	70	65	72	76	71	82	83	88	80	73	80	80	85	74	61	47	56	65	62	72	75	84	67	76.0
	Minimum	65	55	55	65	50	44	57	50	46	40	41	47	37	46	55	61	58	56	59	54	50	59	45	40	41	35	40	46	47	44	45	49.5
Edgeley	Maximum	84	81	93	91	77	83	86	81	75	65	66	75	77	82	96	87	84	75	79	77	81	86	79	64	54	65	60	78	81	89	84	78.6
	Minimum	66	56	56	63	60	48	55	60	49	46	40	43	43	40	53	53	53	53	55	55	49	63	53	45	44	33	47	51	49	47	55	51.1
Fessenden §§	Maximum	90	89	94	92	80	85	87	81	71	67	69	78	74	83	94	89	72	72	81	79	82	80	62	50	54	64	63	68	78	84	65	76.6
	Minimum	63	55	57	62	57	44	54	55	53	47	40	43	38	36	45	49	59	51	54	51	47	55	50	41	41	33	37	44	47	45	53	48.6
Forman	Maximum	85	82	98	99	85	87	89	83	77	69	69	87	76	85	97	91	85	80	79	78	86	88	79	69	62	69	68	80	83	89	85	81.9
	Minimum	67	60	54	64	61	50	61	64	50	47	41	47	46	40	57	58	68	60	56	52	46	65	55	46	49	33	50	49	51	44	65	53.4
Fullerton	Maximum	83	80	91	90	79	83	86	79	69	65	65	81	75	81	97	86	84	75	79	77	81	86	69	61	55	65	60	78	81	88	74	77.5
	Minimum	64	57	56	59	60	50	58	59	49	48	42	40	55	44	52	56	63	59	57	53	46	64	48	45	45	34	49	49	50	49	51	51.6
Garrison	Maximum	88	81	90	90	77	84	90	81	72	66	72	79	75	85	94	89	81	67	81	81	82	84	75	55	55	65	64	74	76	83	80	77.9
	Minimum	65	60	57	61	56	43	57	54	53	57	41	52	38	38	56	53	60	52	59	52	41	56	52	40	39	30	39	49	50	50	49	50.4
Grafton §§	Maximum	85	81	94	93	79	81	84	74	74	70	69	81	74	76	84	85	73	81	85	83	88	76	65	49	57	66	67	64	81	85	75	76.4
	Minimum	60	53	53	60	59	49	54	60	51	46	38	45	47	40	50	50	61	53	55	53	50	58	49	36	41	38	36	45	49	47	57	49.8
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hannah	Maximum	85	96	101	98	85	87	90	89	80	73	80	76	81	72	86	85	76	78	81	94	84	76	61	46	51	74	67	73	84	85	74	79.6
	Minimum	46	48	55	57	49	40	46	47	46	34	35	43	34	33	42	46	54	41	54	51	41	48	43	31	37	27	34	39	45	44	49	43.5
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hillsboro	Maximum	85	85	91	91	87	82	83	80	67	67	68	76	75	77	92	90	87	82	81	75	82	83	82	65	53	65	67	69	79	82	80	78.3
	Minimum	63	55	53	61	61	52	52	52	50	48	41	43	46	41	55	53	59	56	57	52	52	63	54	42	47	40	37	45	48	50	60	51.2
Howard	Maximum	90	86	97	93	89	87	92	80	66	67	77	74	78	93	90	93	77	70	72	78	74	78	69	57	60	64	72	76	77	83	76	78.6
	Minimum	66	57	58	57	54	45	61	44	46	35	39	47	36	42	52	52	52	50	41	39	44	42	49	40	36	30	40	52	49	52	45	46.8
Jamestown §§	Maximum	90	88	99	93	85	87	88	85	74	69	69	84	77	82	96	88	84	78	81	88	84	87	66	54	56	67	63	73	82	87	71	79.8
	Minimum	53	53	52	59	55	47	53	61	56	50	43	44	44	38	49	56	56	51	55	53	49	54	54	44	44	36	47	54	56	52	56	50.8
Lakota	Maximum	82	83	93	92	78	81	86	79	65	66	68	80	73	80	89	90	88	88	82	78	78	79	62	54	53	63	65	65	79	83	80	76.8
	Minimum	50	49	52	59	49	45	43	49	49	43	34	41	37	34	55	55	52	52	56	55	56	59	49	40	43	36	37	46	46	44	59	47.5
Lamoine	Maximum	86	87	90	86	78	83	86	78	71	65	68	79	79	79	97	88	78	72	78	78	82	84	68	54	52	64	62	64	78	85	76	76.6
	Minimum	66	67	56	58	53	43	58	54	52	46	38	38	37	38	56	49	60	52	54	48	47	61	54	40	40	28	41	46	46	45	50	49.1
Langdon	Maximum	84	81	93	95	76	76	87	83	73	64	69	77	69	71	82	82	71	75	79	82	80	70	59	45	52	62	67	65	69	85	65	74.4
	Minimum	60	50	54	60	56	43	51	56	50	38	44	46	42	38	51	52	58	44	49	53	41	53	43	36	39	32	41	45	47	45	54	47.5
Larimore §§	Maximum	81	80	92	95	80	80	82	83	83	66	66	78	73	78	89	85	67	78	80	76	82	80	65	50	50	66	66	68	77	83	74	75.9
	Minimum	62	50	52	62	61	50	52	62	49	50	40	45	43	45	55	54	58	60	55	55	55	62	50	40	42	36	38	47	50	66	60	51.8
Lisbon §§	Maximum	86	87	85	92	85	87	85	84	78	72	80	80	80	85	101	89	87	87	82	86	87	90	85	76	74	76	76	80	82	90	77	83.6
	Minimum	60	52	53	63	62	50	58	59	52	47	38	45	45	38	52	53	63	63	57	51	45	51	55	45	46	34	41	44	46	45	61	50.8
McHenry	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
McKinney	Maximum	90	85	99	99	83	90	95	83	71	72	80	80	78	88	92	84	79	74	82	85	86	85	62	56	66	68	68	72	—	88	—	81.0
	Minimum	61	63	52	57	59	43	55	50	50	42	32	45	34	36	50	55	55	45	46	55	44	45	45	40	40	29	36	55	—	47	—	47.1
Manfred	Maximum	90	85	93	92	80	85	70	85	73	65	72	78	74	86	93	90	72	73	79	78	82	79	73	66	55	65	65	69	77	83	70	78.0
	Minimum	58	58	60	60	58	45	56	56	55	45	40	48	47	37	65	50	60	52	55	54	49	60	51	41	41	32	38	45	47	45	50	50.3
Marmarth	Maximum	80	92	97	86	85	89	88	—	78	70	78	80	82	95	96	95	83	70	67	77	81	80	80	72	58	47	59	63	68	78	78	[a]78.4
	Minimum	59	54	56	62	52	47	64	—	52	—	39	38	45	48	54	64	64	54	48	48	54	48	48	42	37	35	45	48	45	58	48	[a]50.2
Minot §§	Maximum	88	85	94	92	80	84	93	85	74	70	77	78	75	88	98	93	79	70	84	83	85	83	67	53	60	68	68	77	83	90	66	79.7
	Minimum	65	63	63	66	52	42	53	55	50	48	34	45	43	37	41	51	59	51	52	54	44	47	51	41	41	31	33	40	49	47	43	48.1
Mott	Maximum	88	86	95	89	93	87	83	88	77	68	74	69	83	90	95	92	83	77	77	78	86	89	82	74	70	68	73	82	88	82	76	82.0
	Minimum	65	62	66	67	52	44	56	61	56	45	47	45	40	52	60	63	55	48	53	51	55	58	58	46	29	35	38	47	46	44	40	51.1
Napoleon §§	Maximum	84	85	94	90	78	90	89	80	70	67	70	80	77	90	100	100	85	79	80	80	85	85	72	54	54	68	60	75	82	90	72	79.5
	Minimum	66	54	53	61	55	44	46	57	48	43	35	43	40	39	48	55	57	56	48	48	47	61	50	44	41	26	45	46	44	46	51	48.3
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	85	80	90	88	78	85	91	79	73	64	75	76	78	86	97	94	85	71	78	78	83	87	79	51	53	52	63	72	82	89	80	78.1
	Minimum	64	54	57	62	52	57	55	63	52	47	45	44	40	49	64	57	57	53	48	52	48	53	48	43	40	30	41	44	46	50	49	51.5
Orange	Maximum	83	81	95	89	82	88	101	81	74	68	70	78	80	90	99	98	97	85	73	77	82	87	80	66	51	50	62	71	85	90	82	[a]0.5
	Minimum	60	52	62	60	56	42	62	55	50	46	46	44	39	50	60	62	60	52	44	47	12	62	45	49	41	30	42	50	45	50	47	70.1
Oriska	Maximum	89	83	93	92	77	85	82	77	68	76	64	78	75	83	96	88	85	80	80	80	86	86	80	56	56	71	65	78	81	87	74	79.1
	Minimum	53	44	46	61	50	48	56	48	47	48	40	40	47	39	39	59	60	57	55	50	60	63	53	44	44	36	42	46	46	51	59	49.4
Park River	Maximum	82	89	93	95	86	80	85	83	72	67	69	81	76	78	80	85	76	79	83	81	97	77	71	54	54	64	67	63	79	85	80	77.8
	Minimum	60	53	60	59	53	50	51	59	55	44	40	42	47	42	55	54	53	55	56	56	51	57	48	38	44	37	39	45	53	49	51	50.2
Pembina §§	Maximum	78	81	96	98	72	81	78	73	71	63	71	66	67	73	71	86	71	78	76	82	83	71	62	52	52	72	71	64	76	84	73	73.9
	Minimum	61	51	56	62	59	52	52	51	51	46	46	44	46	44	52	43	52	47	51	48	51	51	42	36	41	36	38	46	48	48	52	48.5
Power	Maximum	84	80	91	90	81	82	79	76	71	71	68	78	74	78	94	84	81	73	80	81	79	84	76	60	55	61	66	76	82	86	81	77.5
	Minimum	63	59	62	64	54	56	51	61	51	50	39	44	50	39	54	50	54	60	60	50	48	51	51	41	47	35	39	46	51	46	60	51.4
Towner	Maximum	86	83	94	95	91	90	94	90	85	72	75	77	74	86	89	91	88	76	82	82	85	82	74	57	58	65	67	68	76	85	—	[a]80.6
	Minimum	51	52	41	48	41	33	47	43	41	37	42	51	50	35	55	51	60	49	56	51	46	60	50	42	41	32	37	48	48	51	—	4.1
Turtle Lake	Maximum	90	86	—	—	89	85	88	88	82	67	78	78	74	85	95	89	79	69	80	81	85	81	63	54	65	64	76	77	86	78	79.1
	Minimum	65	57	—	—	64	46	58	55	53	45	45	51	41	41	51	53	59	53	50	53	49	60	51	41	40	32	41	48	51	49	48	40.0
University	Maximum	78	79	91	93	80	80	82	75	66	67	66	78	73	76	86	86	78	79	82	80	86	78	65	50	55	64	67	65	80	81	74	75.5
	Minimum	62	53	53	62	61	50	56	53	49	45	39	41	45	42	56	53	62	52	56	55	50	59	46	41	42	39	40	46	51	48	47	50.1
Wahpeton §§	Maximum	87	81	90	91	79	80	81	87	72	69	69	80	74	77	92	84	84	80	83	81	83	87	69	67	57	65	61	72	82	85	79	78.3
	Minimum	63	59	55	64	63	50	60	64	50	46	40	47	45	40	54	57	63	59	57	50	47	61	55	44	49	36	46	48	50	47	64	52.7
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	89	85	96	98	86	83	95	82	76	70	72	78	75	86	87	91	89	78	82	83	82	81	63	56	57	65	66	77	81	86	—	[a]79.8
	Minimum	68	58	55	56	46	43	59	47	44	39	38	46	39	34	55	51	56	43	50	50	44	52	49	42	40	31	39	48	44	44	—	[a]47.0
Williston	Maximum	89	90	99	89	79	85	93	82	66	66	78	72	78	94	91	92	76	68	71	77	82	80	62	51	53	64	73	76	78	87	66	77.6
	Minimum	63	61	62	62	53	47	63	52	47	42	41	53	43	47	56	62	58	50	43	44	45	58	50	40	39	33	42	54	54	55	50	50.6
Willow City	Maximum	87	84	95	96	78	84	91	88	82	68	75	77	73	85	89	90	77	74	81	82	85	77	67	42	56	66	65	75	76	76	69	77.7
	Minimum	61	53	53	60	57	42	52	50	45	42	38	47	32	45	55	54	54	49	55	49	46	58	49	38	40	30	38	46	46	41	50	47.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
No Rain.
No Rain.
No Rain.
No Rain.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

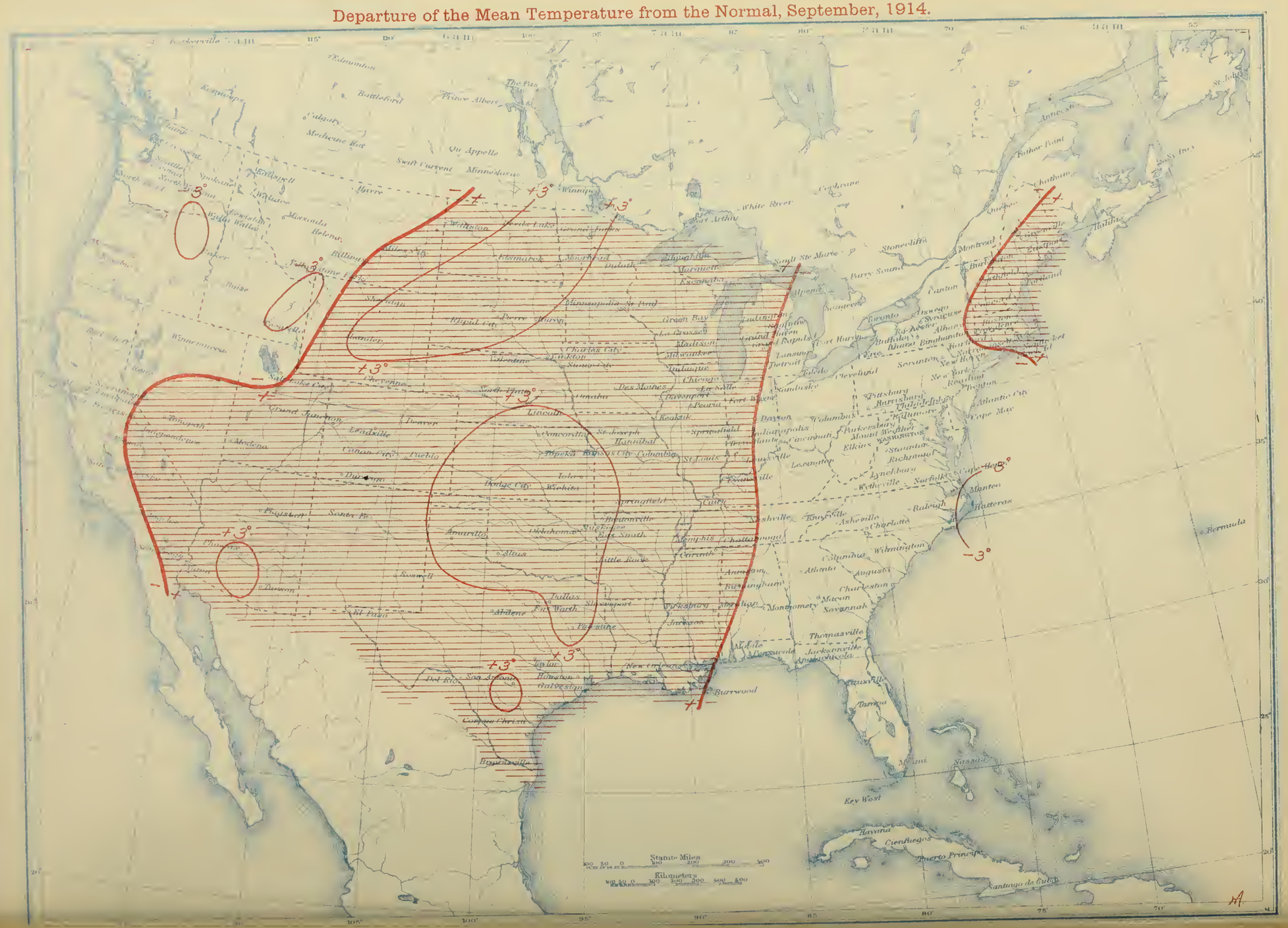
NORTH DAKOTA SECTION

SEPTEMBER, 1914

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
OCTOBER 21, 1914.

Departure of the Mean Temperature from the Normal, September, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., SEPTEMBER, 1914. No. 9.

GENERAL SUMMARY.

Except for two stormy periods of short duration, generally favorable weather for fall work prevailed. Threshing made good progress, but the yields of wheat in the eastern part of the State were discouraging, owing to damage from rust. Corn is an excellent crop, and the delayed frosts allowed the greater portion to mature. The temperature averaged above the normal, the night temperatures being higher than usual for this season of the year. While light to killing frosts were reported from various parts of the State, no serious damage resulted. The precipitation was considerably below the normal, but generally ample for present needs. Fall plowing was well advanced at the close of the month. Fall pastures and ranges are in fine condition.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 29.95 inches. The highest was 30.34 inches at Moorhead, (Minn.) on the 25th; the lowest was 29.33 inches at Williston on the 12th.

TEMPERATURE.

The mean temperature for the State was 59.3°, or 2.9° above the normal, and 2.1° higher than the mean for September, 1913. The highest monthly mean reported was 62.8° at Wahpeton, Richland County; the lowest was 55.4° at Bowbells, Burke County. The highest temperature reported was 98° at Melville, Foster County, and Napoleon, Logan County, on the 18th; the lowest was 25° at Granville, McHenry County, on the 24th, and at Lamoine, Kidder County, and McKinney, Renville County, on the 22d. The greatest monthly range was 72° at Napoleon, Logan County; the least was 54° at Wahpeton, Richland County. The greatest daily range was 55° at Amenia, Cass County, on the 26th. The distribution of temperature was quite uniform, both geographically and throughout the month. Usually the highest temperature occurred on the 18th or 20th, and the lowest on the 22d or 25th.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of four recording stations, was 70 per cent.

PRECIPITATION.

The average precipitation for the State was 1.06 inches, or 0.56 inch below the normal, and 0.69 inch less than the average for September, 1913. The greatest monthly amount reported was 3.14 inches at Wahpeton, Richland County; the least was 0.28 inch at McKinney, Renville County. The greatest amount recorded in any twenty-four consecutive hours was 2.15 inches at Wahpeton on the 13th. The average number of days with 0.01 inch or more of precipitation was five. The distribution of precipitation was fairly uniform over the State. Stormy periods were from the 7th to the 10th, inclusive, from the 13th to the 16th, inclusive, and on the 21st.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.4 miles. The greatest wind movement was 8,082 miles at Devils Lake, an average of 11.2 miles per hour; the least was 4,685 miles at Williston, an average of 6.5 miles per hour. The maximum velocity for a period of five minutes was at the rate of 50 miles per hour from the southeast at Moorhead on the 12th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 16, partly cloudy 8, and cloudy 6.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	59.2	+2.8	101	24	0.84	−0.78
1893	57.1	+0.7	102	8	0.81	−0.81
1894	58.2	+1.8	104	18	1.38	−0.24
1895	56.6	+0.2	100	12	0.77	−0.85
1896	63.6	+7.2	98	11	1.83	+0.21
1897	64.1	+7.7	109	18	0.28	−1.34
1898	56.8	+0.4	98	10	1.25	−0.37
1899	55.0	−1.4	101	11	0.28	−1.34
1900	54.6	−1.8	98	17	4.95	+3.33
1901	53.6	−2.8	100	12	2.01	+0.39
1902	53.6	−2.8	95	15	0.73	−0.89
1903	51.6	−4.8	90	18	3.01	+1.39
1904	54.7	−1.7	96	18	1.65	+0.03
1905	59.8	+3.4	104	23	1.63	+0.01
1906	62.8	+6.4	109	20	1.20	−0.42
1907	52.1	−5.3	96	9	1.39	−0.23
1908	60.7	+4.3	104	16	1.11	−0.51
1909	59.0	+3.6	93	24	0.86	−0.76
1910	55.3	−1.1	99	18	1.96	+0.34
1911	54.9	−1.5	95	21	2.49	+0.87
1912	51.5	−4.9	124	18	2.68	+1.06
1913	57.2	+0.8	108	8	1.75	+0.13
1914	59.3	+2.9	98	25	1.06	−0.56

Climatological Data for September, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure, from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	18	59.5	+2.2	91	*18	32	25	55	0.94	−1.11	0.50	0	3	19	2	9	nw.	C. E. Wood
Aplin	Oliver		7	59.6	.....	[b]93	18	[b]30	* 3	[b]45	1.79	.....	0.68	0	4	.....	.....	.....	sw.	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	60.7	+3.8	95	18	32	22	50	0.46	−0.47	0.17	0	4	22	3	5	s.	R. C. Miles
Beach	Golden Valley	2,576	8	58.8	.....	95	18	32	* 3	51	0.90	.....	0.44	0	4	24	3	3	se.	D. J. Steiner
Berthold Agency	McLean	2,082	20	59.4	+1.8	92	18	30	* 3	52	1.56	+0.08	0.55	0	5	21	6	3	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	61.0	+3.9	95	18	33	29	48	1.10	−0.09	0.47	0	7	19	7	4	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	56.8	+1.1	90	18	28	22	48	0.95	−0.84	0.35	0	7	8	16	6	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	55.4	.....	90	18	27	22	45	0.46	.....	0.11	0	6	20	5	5	.....	G. H. Phelps
Bowman	Bowman			.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.50	0	2	.....	.....	.....	.....	L. S. Diehl
Buford	Williams	1,944	35	58.8	+3.0	92	18	35	16	46	0.85	−0.13	0.40	0	3	9	15	6	nw.	C. H. McCune
Cando	Towner	1,488	13	[d]59.1	+3.7	[c]90	20	[d]31	*22	[d]51	1.00	−0.50	0.36	0	5	.....	.....	.....	.....	E. T. Judd
Carson	Morton		2	59.4	.....	92	18	28	3	48	2.29	.....	0.98	0	6	22	4	4	s.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	0.58	.....	0.23	0	6	20	3	7	nw.	H. P. Rice
Crosby	Divide	1,954	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Crouch
Devils Lake	Ramsey	1,482	10	58.4	+2.8	89	18	33	22	37	1.57	+0.18	0.65	0	10	10	14	6	se.	U. S. W. B.
Dickinson	Stark	2,543	22	58.2	+1.6	94	18	30	22	49	1.20	+0.11	0.53	0	5	7	3	20	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. DeVore
Dunseith	Rolette	1,682	18	56.8	+2.0	87	18	30	22	44	1.38	−0.27	0.63	0	6	19	5	6	nw.	C. E. Goodsell
Eckman	Bottineau		9	57.5	.....	[a]92	18	*26	22	[a]53	0.68	.....	0.47	0	6	.....	.....	.....	s.	J. Nussbaum
Edgeley	LaMoure	1,468	13	60.7	+3.1	93	18	31	25	50	0.75	−1.16	0.43	0	3	10	12	8	nw.	O. A. Thompson
Energy	McLean		2	.....	.....	.....	.....	.....	.....	.....	1.23	.....	0.59	0	4	18	6	6	se.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	0.42	.....	0.14	0	3	21	7	3	e.	M. E. Uggen
Fessenden	Wells	1,610	2	57.0	.....	90	18	31	*22	49	1.14	.....	0.26	0	8	20	4	6	nw.	G. T. Seymour
Forman	Sargent	1,249	22	63.8	+4.7	[a]92	18	*33	25	[a]50	2.01	+0.19	1.00	0	6	.....	.....	.....	nw.	A. Maltby
Fullerton	Dickey	1,439	16	60.2	+3.8	89	*19	31	24	44	1.01	−1.28	0.60	0	4	15	10	5	s.	F. O. Alin
Garrison	McLean	1,901	19	59.0	+2.1	90	18	28	22	49	1.07	−0.28	0.46	0	5	11	16	3	nw.	G. L. Robinson
Goodall	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Layman
Grafton	Walsh	827	22	58.9	+3.0	93	21	30	* 4	40	1.19	−0.72	0.57	0	6	18	9	3	nw.	A. R. T. Wylie
Granville	McHenry	1,504	7	57.9	.....	92	19	25	24	47	1.42	.....	1.21	0	3	14	9	7	nw.	W. A. Christianson
Hannah	Cavalier	1,568	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Moffatt
Hansboro	Towner	1,597	6	58.6	.....	90	*19	30	*22	49	1.10	.....	0.60	0	3	18	8	4	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	8	61.5	.....	92	20	31	25	40	0.47	.....	0.16	0	8	18	8	4	se.	F. E. Mayall
Howard	Williams	2,275	5	56.2	.....	90	18	28	14	43	1.07	.....	0.54	0	3	12	13	5	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	61.0	+4.3	94	18	35	*22	51	1.23	−0.31	0.55	0	5	13	5	12	w.	T. Pettigrew
Lakota	Nelson	1,579	13	58.8	+3.8	93	20	29	25	44	0.62	−0.45	0.25	0	4	12	14	4	se.	C. R. Pettes
Lamoine	Kidder		6	58.3	.....	92	18	25	22	46	1.34	.....	1.00	0	3	15	9	6	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	56.8	.....	90	19	29	24	43	1.49	.....	0.33	0	9	20	6	4	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	59.2	+4.3	90	*19	33	* 4	40	1.20	−0.45	0.60	0	7	15	7	8	nw.	G. G. Graham
Lisbon	Ransom	1,091	10	59.4	+1.8	93	18	29	* 4	51	1.74	−0.34	0.85	0	6	19	3	8	nw.	W. S. Adams
McHenry	Foster	1,509	4	58.4	.....	91	20	33	*22	42	1.05	.....	0.60	0	3	18	7	5	se.	P. E. Truden
McKinney	Renville	1,640	20	58.4	+4.7	92	17	25	22	54	0.28	−1.34	0.20	0	2	3	25	2	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	61.9	.....	93	19	33	* 4	44	1.58	.....	1.04	0	7	25	3	2	s.	M. Reinholt
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	11	58.2	+2.6	88	18	32	22	43	0.97	−0.46	0.31	0	6	20	5	5	se.	P. B. Anderson
Manning	Dunn			.....	.....	.....	.....	.....	.....	.....	2.04	.....	0.85	0	5	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings		5	.....	.....	[a]96	18	33	*14	.....	0.63	.....	0.48	0	5	16	5	9	nw.	S. P. Grane
Marstonmoor	Stutsman		5	58.8	.....	96	18	26	29	54	0.92	.....	0.31	0	6	20	7	3	se.	H. H. McCumber
Mayville	Traill	975	18	62.0	+5.5	93	*18	29	25	45	0.74	−1.82	0.40	0	4	20	4	6	s.	W. C. Gould
Melville	Foster	1,590	16	[c]61.0	+3.5	[c]98	18	[c]32	* 3	[c]48	0.71	−0.63	0.23	0	4	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	1.62	.....	0.80	0	3	22	2	6	s.	Ilj. Edman
Minot	Ward	1,557	18	58.5	+1.5	92	18	29	22	53	0.48	−1.18	0.29	0	6	10	17	3	nw.	B. L. Faris
Minto	Walsh	820	21	60.4	+4.0	92	20	30	* 4	45	0.75	−1.36	0.26	0	6	14	10	6	s.	S. S. Marsh
Mott	Hettinger	2,424	7	60.5	.....	95	18	30	21	47	1.03	.....	0.61	0	5	16	8	6	w.	O. H. Opland
Napoleon	Logan	1,955	22	60.8	+3.9	98	18	26	22	54	0.43	−0.87	0.18	0	5	15	3	12	s.	C. J. Hoof
New England	Hettinger	2,400	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly
New Rockford	Eddy	1,531	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	9	60.5	.....	95	18	32	* 3	47	1.21	.....	0.31	0	6	20	5	5	se.	J. Christiansen
Ormge	Adams	2,586	5	58.0	.....	88	10	30	* 3	45	0.92	.....	0.50	0	3	19	10	1	se.	J. E. Goforth
Oriska	Barnes	1,270	9	62.6	.....	93	19	32	25	48	0.94	.....	0.25	0	6	10	16	4	se.	J. J. Taylor
Park River	Walsh	998	10	58.3	+0.7	91	*19	35	4	42	1.83	+0.14	1.39	0	5	12	14	4	nw.	G. M. Hargrave
Pembina	Pembina	789	40	58.0	+4.4	92	19	31	24	42	1.10	−0.75	0.76	0	3	17	3	10	w.	C. W. Shumaker
Power	Richland	1,020	22	62.3	+4.0	[a]91	18	[a]30	25	[a]42	1.08	−0.81	0.82	0	5	19	7	4	se.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.16	0	3	13	10	7	ne.	C. Frank
Ranger	Billings		2	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.45	0	6	17	2	11	se.	C. M. Hubbard
Steele	Kidder	1,857	17	61.8	+4.4	96	18	34	22	40	0.40	−0.80	0.16	0	6	20	8	2	s.	H. S. Wood
Towner	McHenry	1,482	12	58.3	+3.8	89	18	28	22	45	0.74	−1.30	0.45	0	2	15	10	5	s.	B. Bagley
Turtle Lake	McLean	1,899	2	59.8	.....	89	18	32	*14	48	0.99	.....	0.52	0	5	26	3	1	e.	E. G. Ranum
University	Grand Forks	830	22	60.0	+4.0	92	19	32	25	38	0.34	−1.66	0.13	0	6	14	7	9	se.	U. S. W. B.
Wahpeton	Richland	962	20	62.8	+4.1	87	*19	33	25	46	3.14	+1.06	2.15	0	9	17	7	6	se.	F. E. Smith
Walhalla	Pembina	966	7	[d]61.4	.....	[d]90	20	[d]30	* 9	[d]50	1.97	.....	0.97	0	5	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. G. Arvig
Westhope	Bottineau	1,508	8	58.6	.....	91	18	26	22	47	0.44	.....	0.33	0	4	14	14	2	se.	C. M. Condit
Williston	Williams	1,875	35	58.6	−0.9	91	18	35	3	44	0.46	−0.45	0.17	0	6	10	15	5	se.	U. S. W. B.
Willow City	Bottineau	1,471	22	55.8	+1.1	92	18	26	29	50	0.96	−0.80	0.43	0	5	11	13	6	se.	M. A. Ostby
Zap	Mercer		1	58.5	.....	90	18	30	22	48	1.43	.....	0.57	0	7	16	10	4	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	60.6	+4.0	88	19	33	25	38	1.50	−0.80	0.98	0	8	21	4	5	se.	U. S. W. B.
Averages				59.3	+2.9	98	18	25	22	55	1.06	−0.56	2.15	0	5	16	8	6	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for September, 1914.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red									T.	T.			.50	T.	.36							.08										0.94
Aplin	Knife							.68		.20				.25								.66											1.79
Ashley	Missouri	.06						T.		.06			T.	.17								.17							T.				0.46
Beach	Lit. Missouri	T.						.21		.13			T.				.12					.44							T.				0.96
Berthold Agency	Missouri	T.						.54		.20				.20		.07						.55											1.56
Bismarck ***	Missouri	T.						.47	T.	.10				.19	.06	T.	.06					.20		T.					.02				1.10
Bottineau ‖ ‖	Mouse		.17						T.	.17	.05			.14			.03					.35	.04										0.95
Bowbells ‖ ‖	Mouse		.05						.05	.05				.09			.11					.11											0.46
Bowman	Grand									.10												.50											0.60
Buford	Missouri							.40		.20												.25											0.85
Cando	Sheyenne	.01									.13		.15	.35								.36											1.00
Carson	Heart		T.					.58		.10			.98	.27	T.							.26							.10				2.29
Colgate	Sheyenne									.23	.01			.07		T.	.10					.07	.10										0.58
Crosby	Mouse																																
Devils Lake ***	Sheyenne	.03							.01	.08			.24	.07	.02	.64	.01					.46	.01										1.57
Dickinson	Heart								.53	.04				.22			.06				.02	.33											1.20
Donnybrook	Mouse																																
Dunseith	Mouse	.11						T.		.18				.63	.02						.04	.40											1.38
Eckman	Mouse								.03	.06				.09		.02					.01	.47											0.68
Edgeley	James									.43				.16								.16							T.				0.75
Energy	Missouri							.42	.04				.18									.59											1.23
Epping	Missouri							.22		.06												.14											0.42
Fessenden ‖ ‖	James	T.	.03						.20	.08	.13			.26		T.	.26					.06	.12										1.14
Forman	Sheyenne	.10	.05						T.	1.00	.06			.70									.10										2.01
Fullerton	James									.60				.26	.05							.10							T.				1.01
Garrison	Missouri	T.						.46	.05	.11			.06				T.					.39											1.07
Goodall	Missouri																																
Grafton ‖ ‖	Red					.06		.29		.03	.57				.06								.18										1.19
Granville	Mouse																																
Hannah	Pembina	T.	.09							T.					T.		.12					1.21											1.42
Hansboro	Red									.40				.10								.60											1.10
Hettinger	Grand																																
Hillsboro	Red									.04	.03			.04	.05	.16						.09	.04						.02				0.47
Howard	Missouri								T.	.26				T.							.54	.27		T.									1.07
Jamestown ‖ ‖	James								.10		.55			.40	.04	T.							.14										1.23
Lakota	Sheyenne	T.	T.						T.	.25			T.	T.	.03	.09						.25		T.						T.			0.62
Lamoine	Missouri							*	.34	T.			T.	1.00	T.	T.																	1.34
Langdon ‖ ‖	Pembina		.01							.14	.33			.06		.01	.51					.19	.20	.04									1.49
Larimore ‖ ‖	Red									.01	.36		.60	.05	.05		.01						.12										1.20
Lisbon ‖ ‖	Sheyenne		.08						T.	.18	.10			.85	T.					.35			.18										1.74
McHenry	James	T.						T.						.60		.20						.25											1.05
McKinney	Mouse								.08							.20																	0.28
McLeod	Sheyenne	.02	.03							.21	.16			1.04	.02							.10											1.58
Mandan	Missouri																																
Manfred	Sheyenne	.06						.16	.04	.10				.31	T.		.30																0.97
Manning	Knife							.85	.20				.58			.13						.28											2.04
Marmarth	Lit. Missouri	.01						.05						.04	T.		.05					.48							T.				0.63
Marstonmoor	James		T.					.27	.04	.12				.15	.03							.31							T.				0.92
Mayville	Red									.10	.40						.15					.09							T.				0.74
Melville	James							.20		.18						T.					.10	.23							T.				0.71
Milnor	Red	T.					T.			.80	T.	T.	.66	T.								.16											1.62
Minot ‖ ‖	Mouse								.04	.01	.06			.05								.29	.03										0.48
Minto	Red						.10			.26			.18	.04								.13		.04									0.75
Mott	Cannon Ball						.35	.01					.02								.04	.61											1.03
Napoleon ‖ ‖	Missouri								.14	T.	.04			.02									.18								.05			0.43
New England	Cannon Ball																																
New Rockford	James																																
New Salem	Heart		.05					.28		.04			.31	.17	T.							.36											1.21
Orange	Cannon Ball											.50									.40								.02				0.92
Oriska	Sheyenne	T.					T.	.24		T.	.12			.18	.25				T.			.14							.01				0.94
Park River	Red						T.		T.	1.39			T.	.06	.01	.09			T.			.28	T.										1.83
Pembina ‖ ‖	Red		T.								.76			.02								T.	.32										1.10
Power	Sheyenne	.04	.01							.09			.82									.12							T.				1.08
Powers Lake	Missouri	T.						.09		.14				.16			T.					T.											0.39
Ranger	Lit. Missouri	T.						.45	T.	.06				.03		.02						.20							.03				0.79
Steele	Missouri							.06	.09	T.				.02	.02							.16							.05				0.40
Towner	Mouse								T.	T.				.45	T.	T.						.29											0.74
Turtle Lake	Missouri							.38	.02	.06				.52	T.		.01																0.99
University	Red		T.		T.					.12	.01			T.	.04		.07		T.			.08		.02				T.				0.34
Wahpeton ‖ ‖	Red	T.	.10	.08							.45	.04		2.15	.23		.04						.04						.01				3.14
Walhalla	Pembina		.01							.97					.07		.87				.05												1.97
Washburn	Missouri																																
Westhope	Mouse								.04					.02		.05						.33											0.44
Williston ***	Missouri	.06						.17	.03	.05			T.	T.								.14	T.										0.46
Willow City	Mouse	.09								.08				.29	.07							.43											0.96
Zap	Knife							.41	T.	.11			.08	.23	.02		.01					.57											1.43
Moorhead, Minn ***	Red	.01								.02	.23		.69	.29	.06		.05					.15							T.				1.50

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	58	66	68	81	81	67	60	64	56	83	82	75	68	70	79	71	80	91	91	90	78	72	65	55	74	89	78	78	80	79	..	74.3
	Minimum	46	47	41	35	35	46	43	47	53	52	41	44	55	47	41	43	39	50	65	55	57	38	40	38	32	34	49	48	38	42	..	44.7
Aplin	Maximum	74	72	72	85	78	73	60	67	74	72	87	85	67	67	74	70	85	93	—	85	70	70	70	74	74	78	79	—	81	87	..	[b]75.8
	Minimum	42	40	30	50	52	41	45	50	54	46	42	51	42	35	40	42	42	55	—	53	42	30	46	36	45	36	43	—	34	52	..	[b]43.4
Ashley	Maximum	61	70	70	77	78	71	63	71	63	78	86	78	59	67	84	73	82	95	94	90	77	67	70	72	74	87	91	74	79	84	..	75.8
	Minimum	49	42	35	40	42	41	46	62	54	51	36	56	46	42	39	47	41	64	62	63	40	32	44	36	35	46	47	49	35	47	..	45.6
Beach	Maximum	63	72	77	89	78	72	68	69	72	72	87	65	62	65	70	67	88	95	86	76	62	69	70	87	80	85	75	71	85	89	..	75.5
	Minimum	40	37	32	51	51	36	45	49	45	41	45	41	38	33	33	36	44	47	50	56	39	32	40	36	45	39	50	41	37	55	..	42.1
Berthold Agency	Maximum	65	71	72	83	77	73	62	66	73	71	88	81	70	65	69	69	88	92	88	84	65	68	70	77	80	85	79	73	83	87	..	75.8
	Minimum	40	41	30	43	52	39	44	50	54	39	43	56	44	35	37	44	42	55	58	52	37	30	42	34	41	36	40	40	31	58	..	43.0
Bismarck	Maximum	65	71	71	80	77	70	54	71	72	74	86	80	63	65	70	70	84	95	90	85	62	70	70	72	79	82	80	77	81	89	..	75.2
	Minimum	50	45	38	46	54	42	46	48	50	43	41	58	42	39	39	48	49	63	71	62	43	34	47	39	45	44	44	44	33	55	..	46.7
Bottineau §§	Maximum	63	67	71	78	75	69	54	70	73	74	87	85	61	67	72	66	80	90	85	79	59	59	69	67	79	77	80	72	77	82	..	72.9
	Minimum	35	38	37	39	46	36	37	41	46	39	44	56	45	34	36	41	41	46	57	59	47	28	29	34	35	40	48	44	32	34	..	40.8
Bowbells §§	Maximum	62	70	69	75	73	69	51	70	71	74	84	78	59	63	71	65	80	90	85	67	54	68	70	68	78	73	78	70	80	82	..	71.6
	Minimum	37	40	31	33	43	36	39	40	46	43	42	50	40	36	38	37	37	49	55	48	41	27	31	33	34	35	38	40	35	46	..	39.3
Carson	Maximum	66	70	72	82	77	72	64	64	73	72	86	84	64	63	76	68	81	92	85	78	68	68	68	75	78	82	78	74	80	86	..	74.9
	Minimum	48	42	28	48	58	36	46	52	45	44	38	58	40	37	52	44	50	52	51	56	41	30	42	35	42	35	38	44	32	55	..	44.0
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	66	65	68	74	74	68	61	68	56	76	83	78	63	65	69	65	74	89	88	89	61	59	65	60	73	72	76	75	74	80	..	71.1
	Minimum	45	41	40	40	49	43	40	47	52	50	48	56	50	43	40	47	46	59	65	60	43	33	43	33	40	44	44	46	37	49	..	45.8
Dickinson	Maximum	62	70	72	86	77	72	64	60	71	69	86	73	60	63	70	67	85	94	83	77	63	67	68	75	79	82	76	70	83	86	..	73.7
	Minimum	42	39	33	47	52	36	44	49	51	43	42	54	41	33	34	40	45	48	59	51	41	30	42	36	40	35	47	42	34	48	..	42.6
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Dunseith	Maximum	62	63	67	76	71	65	53	70	70	72	84	80	61	64	69	64	76	87	82	75	62	57	65	64	75	76	80	70	74	80	..	70.5
	Minimum	37	38	39	40	44	42	38	46	50	40	40	55	46	35	40	42	42	55	59	60	42	30	42	34	35	48	50	45	33	48	..	43.2
Edgeley	Maximum	66	72	69	79	82	73	68	72	65	80	85	77	64	62	83	73	81	93	92	91	83	66	72	67	75	88	86	68	77	85	..	76.5
	Minimum	50	46	38	32	50	42	41	42	54	45	41	60	50	47	33	51	37	65	61	63	41	35	45	34	31	42	44	51	36	41	..	44.9
Fessenden §§	Maximum	66	68	69	77	76	71	61	69	67	76	85	79	63	66	67	69	80	90	87	88	54	65	68	66	76	77	78	77	77	83	..	73.2
	Minimum	43	42	34	34	43	39	39	43	44	42	41	48	46	35	34	44	39	45	66	56	53	31	34	31	34	35	37	47	34	34	..	40.9
Forman	Maximum	71	73	72	—	82	75	70	72	69	80	87	85	63	69	83	80	81	92	91	89	86	67	73	70	78	86	89	82	84	82	..	[a]78.7
	Minimum	50	44	37	—	53	43	44	45	52	53	46	57	53	49	44	55	43	64	66	70	48	36	45	38	33	47	55	68	34	43	..	[a]48.8
Fullerton	Maximum	63	71	69	77	80	71	63	69	64	68	83	72	63	65	81	68	80	84	89	89	73	64	71	72	75	87	85	72	75	83	..	74.2
	Minimum	50	44	53	36	48	44	40	40	53	45	41	59	50	45	37	49	40	60	60	65	44	35	45	31	40	50	49	56	37	39	..	46.2
Garrison	Maximum	66	70	70	70	76	72	54	74	74	71	84	83	72	66	68	69	83	90	85	78	70	66	67	73	77	79	80	76	79	84	..	74.2
	Minimum	42	41	31	41	54	49	41	46	49	43	44	56	47	35	36	41	44	56	62	54	42	28	45	35	41	40	45	46	30	46	..	43.7
Grafton §§	Maximum	69	60	70	70	76	67	60	67	59	78	81	77	68	70	78	69	76	87	92	93	70	61	70	61	69	75	77	79	76	82	..	72.9
	Minimum	48	47	45	30	40	49	42	45	49	48	43	48	52	45	39	44	37	49	63	63	56	40	43	37	30	39	46	50	36	43	..	44.9
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hannah	Maximum	70	62	72	75	79	72	76	78	79	84	85	78	67	73	76	72	76	89	92	87	74	61	67	64	74	74	76	80	74	86	..	75.7
	Minimum	36	40	40	28	45	43	35	34	45	47	47	46	45	39	47	45	33	46	53	49	45	28	35	25	30	37	44	42	35	40	..	40.1
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum	66	62	73	80	73	70	56	71	64	77	84	86	78	79	79	75	78	81	90	90	63	64	70	67	79	81	84	86	76	84	..	75.5
	Minimum	40	45	41	31	54	42	32	37	48	42	42	50	46	32	32	44	35	54	52	50	43	30	42	30	40	45	38	52	34	49	..	41.7
Howard	Maximum	72	70	69	78	73	67	50	60	62	71	84	72	58	62	67	71	83	90	80	67	56	67	67	75	80	81	71	80	78	79	..	71.3
	Minimum	44	41	33	45	43	36	40	47	46	41	46	44	32	28	38	30	40	49	56	47	40	35	42	45	70	40	41	39	38	48	..	41.1
Jamestown §§	Maximum	67	71	70	79	81	71	71	70	71	79	85	80	65	69	70	73	83	94	93	92	63	64	70	67	74	88	86	79	80	87	..	76.4
	Minimum	49	46	40	39	54	50	43	43	50	48	40	47	50	45	40	50	40	48	65	63	58	35	45	36	35	37	47	50	35	37	..	45.5
Lakota	Maximum	66	66	69	75	70	75	61	70	57	77	82	77	64	67	77	72	76	91	90	93	75	61	68	61	72	72	79	77	74	81	..	73.2
	Minimum	51	40	40	33	40	38	38	46	50	49	41	57	51	40	47	49	50	62	67	63	42	35	38	33	29	40	42	49	30	40	..	44.3
Lamoine	Maximum	66	68	68	78	77	70	52	70	68	75	86	83	51	65	67	68	82	92	85	88	73	65	68	68	78	77	82	76	78	86	..	74.0
	Minimum	41	43	31	41	52	35	42	46	52	42	40	40	41	35	35	43	43	58	65	62	42	25	41	30	37	41	43	46	32	55	..	42.6
Langdon	Maximum	65	57	65	74	70	67	56	65	53	75	80	77	66	69	70	67	72	87	90	85	60	57	59	57	75	73	75	75	72	83	..	69.9
	Minimum	40	44	44	37	49	47	34	37	49	49	41	47	50	41	40	43	45	56	64	60	51	33	45	29	32	41	41	49	34	49	..	43.7
Larimore §§	Maximum	66	65	66	73	77	77	61	70	56	77	80	75	65	67	77	67	74	89	90	90	50	59	68	57	70	73	77	76	73	79	..	71.5
	Minimum	48	48	45	33	48	50	45	47	48	48	46	58	52	48	40	52	45	52	67	64	50	38	45	35	33	40	45	53	38	45	..	46.9
Lisbon §§	Maximum	68	70	74	79	84	83	68	71	58	82	84	84	65	70	82	70	79	93	87	75	72	62	73	70	75	89	87	72	78	82	..	76.5
	Minimum	50	45	36	29	36	39	42	40	46	49	38	44	42	52	34	50	34	42	65	54	48	37	40	37	29	38	50	54	32	34	..	42.2
McHenry	Maximum	66	67	66	77	75	67	67	70	65	76	83	73	65	65	66	72	76	84	90	91	61	61	66	61	76	78	81	77	76	83	..	72.7
	Minimum	42	44	36	36	46	47	42	49	53	46	41	42	41	40	36	41	40	61	60	65	42	33	41	33	36	49	48	49	35	45	..	44.0
McKinney	Maximum	80	74	72	80	80	71	55	76	76	78	72	75	70	72	68	83	92	73	85	76	76	65	65	73	83	80	80	75	82	85	..	75.7
	Minimum	40	42	31	40	50	40	44	46	46	48	42	57	44	39	40	35	33	44	33	54	51	25	52	28	32	35	28	44	28	52	..	41.0
Manfred	Maximum	66	66	68	78	76	76	60	69	69	73	84	81	63	65	67	66	80	88	83	83	68	63	67	64	75	73	78	75	76	84	..	72.8
	Minimum	45	44	35	36	38	40	42	50	52	43	41	60	47	40	38	46	43	55	65	58	43	32	43	33	35	40	39	46	34	47	..	43.7
Marmarth	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Minot §§	Maximum	70	70	70	80	82	70	69	73	76	75	88	85	70	70	72	69	82	92	86	79	60	69	77	71	80	76	80	75	80	88	..	76.1
	Minimum	41	41	37	38	46	43	43	43	49	42	44	52	44	38	41	45	37	41	62	49	46	29	31	32	33	33	36	44	33	35	..	40.9
Mott	Maximum	77	78	75	83	87	77	74	78	78	80	87	88	73	77	82	86	89	95	88	77	66	74	78	80	84	79	74	82	83	88	..	80.6
	Minimum	39	35	34	43	45	42	40	41	46	43	40	42	37	34	36	45	52	50	47	43	30	36	37	38	43	40	37	35	38	44	..	40.4
Napoleon §§	Maximum	65	73	75	80	80	75	55	73	63	79	89	80	60	68	87	71	84	98	96	96	56	70	73	75	78	89	85	78	82	88	..	77.4
	Minimum	44	41	31	39	44	35	41	40	46	43	36	50	40	39	33	40	41	49	65	64	53	26	40	30	35	38	42	44	29	36	..	41.1
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	69	71	72	84	78	73	53	69	75	73	88	86	62	64	72	70	82	95	88	81	79	70	74	74	79	84	80	79	84	88	..	76.5
	Minimum	46	41	32	46	48	40	42	48	52	48	46	55	40	36	38	42	48	57	65	65	39	32	36	38	37	40	47	46	37	49	..	44.5
Orange	Maximum	67	72	75	84	78	72	58	74	78	88	81	61	67	81	65	68	82	84	82	71	67	57	61	65	69	74	71	67	70	77	..	73.3
	Minimum	41	37	30	50	54	35	50	48	41	41	52	38	35	40	38	40	50	55	62	60	38	30	37	37	43	37	42	44	36	41	..	42.7
Oriska	Maximum	65	78	78	78	84	73	73	69	63	81	86	75	69	68	80	74	78	92	93	91	78	77	73	77	75	81	86	86	86	81	..	78.4
	Minimum	47	39	47	35	49	44	50	54	52	52	42	60	50	40	38	53	38	60	65	66	65	35	46	35	32	41	48	47	38	37	..	46.8
Park River	Maximum	61	68	68	74	76	63	60	68	64	76	80	76	68	68	77	72	75	90	91	91	49	59	68	58	73	74	75	77	74	80	..	71.8
	Minimum	46	44	42	35	48	57	38	44	50	51	45	50	50	45	37	43	40	55	64	49	45	39	41	36	37	36	44	54	40	38	..	44.8
Pembina §§	Maximum	71	62	64	76	73	72	68	71	62	74	76	71	70	70	76	72	79	88	92	83	58	52	62	63	72	74	72	71	75	74	..	71.5
	Minimum	44	46	42	34	49	42	41	43	48	48	41	52	48	48	44	42	47	52	61	58	48	38	41	31	32	39	43	41	38	42	..	44.4
Power	Maximum	76	71	79	—	84	82	84	74	57	80	83	66	65	76	81	71	81	91	90	90	66	74	76	76	72	84	86	72	76	84	..	[a]77.5
	Minimum	46	42	39	—	48	44	40	43	51	52	56	43	49	49	52	46	42	56	58	62	56	42	46	42	30	45	50	56	36	45	..	[a]47.1
Towner	Maximum	65	67	70	80	75	70	65	72	75	75	87	86	71	67	71	68	81	89	86	79	64	62	68	67	79	75	78	73	78	85	..	74.3
	Minimum	41	40	34	40	41	39	41	46	52	41	43	58	46	35	38	44	41	55	58	50	43	28	41	31	38	39	42	44	33	48	..	42.3
Turtle Lake	Maximum	72	69	71	80	76	73	63	71	71	72	85	84	67	64	66	69	72	89	87	82	69	80	78	78	76	78	79	74	79	86	..	75.8
	Minimum	50	43	34	42	51	40	42	42	54	45	45	57	42	32	36	43	44	57	65	56	42	32	40	39	40	39	40	46	33	47	..	43.9
University	Maximum	67	63	68	72	77	66	63	68	62	79	78	78	64	69	79	70	75	91	92	91	73	59	69	59	70	75	77	77	75	79	..	72.8
	Minimum	45	47	42	34	52	48	47	51	53	52	43	61	46	49	43	44	39	61	67	67	46	42	46	34	32	43	56	47	40	43	..	47.3
Wahpeton §§	Maximum	59	73	70	73	82	83	69	71	60	73	82	72	63	67	84	77	75	86	87	87	85	61	72	62	69	85	83	69	75	77	..	77.7
	Minimum	49	45	44	35	51	46	40	47	53	52	48	57	55	46	45	42	43	56	60	65	66	40	45	40	33	39	59	53	38	42	..	47.8
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	69	66	70	80	82	68	54	72	75	75	88	87	66	68	67	81	89	91	84	80	66	62	70	67	80	80	74	73	79	84	..	74.9
	Minimum	39	41	34	39	38	41	38	46	56	38	41	57	45	39	41	39	50	55	56	55	44	26	40	31	16	41	39	38	28	44	..	42.2
Williston	Maximum	63	70	70	81	74	68	54	62	72	72	86	69	58	62	69	66	85	91	80	69	55	67	68	76	80	81	76	69	84	82	..	72.0
	Minimum	43	44	35	52	47	40	44	54	49	40	50	49	40	38	42	39	52	51	58	49	37	36	46	42	46	44	49	41	40	53	..	45.3
Willow City	Maximum	67	65	69	79	74	67	56	70	74	75	86	84	69	67	67	67	77	92	86	80	48	57	54	57	64	64	77	72	63	76	..	70.8
	Minimum	49	47	35	34	44	38	34	44	51	36	36	57	45	36	37	33	34	53	66	50	42	28	37	30	34	40	45	40	26	41	..	40.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
No Rain.
No Rain.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

OCTOBER, 1914

BY

ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 27, 1914.

Departure of the Mean Temperature from the Normal, October, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., OCTOBER, 1914. No. 10.

GENERAL SUMMARY.

Exceptionally mild and pleasant weather prevailed throughout the entire month. With a mean temperature the highest ever known in the climatological history of the State, with no severe storms, but precipitation ample for present needs, with more than the usual sunshine, fall work made good progress. Threshing was practically completed, corn harvesting was well advanced, and much fall plowing was done. None of the streams of the State, or other bodies of water, showed ice formations. The stage of water in the Missouri River and its tributaries is comparatively low.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.99 inches. The highest was 30.71 inches at Bismarck, Burleigh County, on the 23d; the lowest was 29.36 inches at the same place on the 4th.

TEMPERATURE.

The mean temperature for the State was 50.0°, or 6.2° above the normal, and 10.7° higher than the mean for October, 1913. This is the highest mean temperature ever recorded in North Dakota during October since the Climatological Service was established in 1892. The highest monthly mean reported was 53.5° at Mayville, Traill County; the lowest was 44.4° at Howard, Williams County. The highest temperature reported was 97° at Cando, Towner County, on the 2d; the lowest was zero at Turtle Lake, McLean County, on the 26th. The greatest monthly range was 86° at Turtle Lake, McLean County; the least was 63° at Bowman, Bowman County. The greatest daily range was 56° at Eckman, Bottineau County, and Turtle Lake, McLean County, on the 17th. The distribution of temperature was quite uniform. The highest temperature usually occurred on the 1st or 2d, and the lowest on the 26th.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of four recording stations, was 74 per cent.

PRECIPITATION.

The average precipitation for the State was 0.98 inch, or 0.06 inch below the normal, and 0.65 inch less than the average for October, 1913. The greatest monthly amount reported was 2.05 inches at Larimore, Grand Forks County; the least was 0.07 inch at McLeod, Ransom County. The greatest amount recorded in any twenty-four consecutive hours was 1.55 inches at Jamestown, Stutsman County, on the 22d-23d, and at Napoleon, Logan County, on the 23d. The average number of days with 0.01 inch or more of precipitation was four. The precipitation occurred mostly in the form of rain, only traces of snow being reported. The distribution of precipitation was fairly uniform over the State. Stormy periods were from the 4th to the 12th, inclusive, and on the 22d-23d.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.2 miles. The greatest wind movement was 7,421 miles at Devils Lake, an average of 10.0 miles per hour; the least was 4,262 miles at Williston, an average of 5.7 miles per hour. The maximum velocity for a period of five minutes was at the rate of 34 miles per hour from the southeast at Bismarck on the 6th, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 16, partly cloudy 8, and cloudy 7.

ERRATA, SEPTEMBER, 1914.

Page 66: Epping, number days cloudy should be 2; Grafton, date of highest temperature should be 20; New Salem, greatest twenty-four hour precipitation should be 0.36 inch; Orange, monthly mean should be 57.4°; Wahpeton, monthly mean should be 61.1°. Page 70: Orange, mean maximum should be 72.2°; Wahpeton, mean maximum should be 74.4°.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	47.2	+3.4	95	7	0.58	−0.46
1893	40.6	−3.2	79	0	1.05	+0.01
1894	43.0	−0.8	77	16	1.66	+0.62
1895	40.5	−3.3	85	−12	0.25	−0.79
1896	40.2	−3.6	88	5	0.78	−0.26
1897	45.9	+2.1	93	6	0.77	−0.27
1898	38.8	−5.0	84	8	1.25	+0.21
1899	42.1	−1.7	86	7	1.18	+0.14
1900	48.2	+4.4	87	14	1.54	+0.50
1901	47.5	+3.7	88	11	1.61	+0.57
1902	43.7	−0.1	87	10	1.28	+0.24
1903	47.0	+3.2	81	11	0.94	−0.10
1904	46.6	+2.8	87	10	1.03	−0.01
1905	40.3	−3.5	93	0	0.57	−0.47
1906	45.0	+1.2	89	0	0.57	−0.47
1907	44.4	+0.6	88	4	0.70	−0.34
1908	43.0	−0.8	86	8	1.58	+0.54
1909	43.1	−0.7	97	0	0.64	−0.40
1910	48.2	+4.4	95	0	0.54	−0.50
1911	42.5	−1.3	86	−10	1.32	+0.28
1912	44.4	+0.6	90	0	0.94	0.10
1913	39.3	+0.5	90	− 2	1.63	+0.59
1914	50.0	+6.2	97	0	0.98	−0.06

Climatological Data for October, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With 01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Amenia	Cass	954	18	50.2	+5.2	85	* 1	18	27	49	1.32	−0.08	0.50	0	4	19	4	8	nw.	C. E. Wood
Aplin	Oliver		7	[i]49.3		[i]88	2	[i]15	26	[i]52	0.76			0	3					J. B. Hagelbarger
Ashley	McIntosh	2,001	17	51.4	+7.7	88	2	21	27	47	1.07	+0.13	0.41	0	5	21	4	6	sc.	R. C. Miles
Beach	Golden Valley	2,576	8	48.0		85	* 1	20	29	48	0.62		0.32	0	4	19	8	4	nw.	D. J. Stelner
Berthold Agency	McLean	2,082	20	48.5	+2.9	[b]86	* 3	14	26	[b]50	0.48	−0.44	0.25	0	6	17	9	5	nw.	C. W. Hall
Bismarck	Burleigh	1,674	40	51.0	+6.9	89	1	21	26	48	0.79	−0.24	0.44	T.	8	15	6	10	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	48.2	+5.7	87	3	15	26	46	0.68	−0.40	0.31	0	5	11	10	10	se.	H. F. Steinmeier
Bowbells	Burke	1,958	2	47.0		87	1	16	27	49	0.56		0.23	0	6	22	3	6		G. H. Phelps
Bowman	Bowman			48.8		86	* 1	23	29	55	0.88		0.27	0	4	16	1	14		L. S. Diehl
Buford	Williams	1,944	35	48.7	+5.3	84	1	19	29	51	0.55	−0.31	0.40	0	4	9	13	9	sw.	C. H. McCune
Cando	Towner	1,488	13	[c]52.2	+8.6	[c]97	2	[c]15	26	[c]53	0.99	+0.25	0.18	0	5					E. T. Judd
Carson	Morton		2	48.2		86	2	18	[a]26	53	0.76		0.35	0	4	16	10	5	nw.	D. L. Basquin
Colgate	Steele	1,177									1.25		0.57	0	4	18	5	8	nw.	H. P. Rice
Crosby	Divide	1,954	7																	W. D. Croneh
Devils Lake	Ramsey	1,482	10	50.8	+10.3	89	1	19	26	36	1.15	−0.08	0.44	0	7	14	8	9	sw.	U. S. W. B.
Dickinson	Stark	2,543	22	48.1	+3.9	84	2	19	26	49	0.42	−0.34	0.26	0	4	19	7	5	s.	L. R. Waldron
DonnyBrook	Ward	1,760	15																	C. J. DeVore
Dunseith	Rolette	1,682	18	48.2	+6.0	84	* 2	15	[a]26	44	0.80	+0.08	0.63	0	3	18	1	12	nw.	C. E. Goodsell
Eckman	Bottineau		9	47.8		87	3	8	26	56	0.51		0.18	0	5	20	5	6	s.	J. Nussbaum
Edgeley	LaMoure	1,468	13	51.8	+5.8	87	1	19	27	45	0.96	+0.18	0.42	0	3	5	14	12	nw.	O. A. Thompson
Energy	McLean		2								0.63		0.46	0	4	17	6	8	nw.	N. W. Solenberger
Epping	Williams	2,224	6								0.73		0.34	0	3	18	6	7	w.	M. E. Uggen
Fessenden	Wells	1,610	2	49.8		91	2	18	26	51	1.06		0.70	0	5	19	4	8	nw.	G. T. Seymour
Forman	Sargent	1,249	22	52.2	+6.3	87	* 1	16	27	41	1.13	−0.23	0.74	0	6	17	4	10	nw.	A. Mallby
Fullerton	Dickey	1,439	16	50.8	+6.2	84	* 1	16	27	43	0.64	−0.59	0.29	0	3	21	3	7	s.	F. O. Alin
Garrison	McLean	1,901	19	49.4	+5.2	86	2	14	26	52	0.90	+0.08	0.76	0	2	15	7	9	se.	G. L. Robinson
Goodall	McKenzie			49.4		85	* 2	15	26	44						17	10	4	w.	C. H. Layman
Grafton	Walsh	827	22	[c]50.7	+7.5	[c]91	1	[c]16	26	[c]44	1.56	+0.67	0.59	0	6					A. R. T. Wylie
Granville	McHenry	1,504	7																	W. A. Christianson
Hannah	Cavalier	1,568	9	48.7		84	1	10	26	43	1.08		0.71	0	3	18	5	8	s.	J. Moffatt
Hansboro	Towner	1,597	6	50.2		91	2	14	26	50	1.60		0.70	0	4	17	9	5	s.	C. L. Blackorby
Hettinger	Adams	2,253	6																	W. R. Lanxon
Hillsboro	Traill	901	8	53.2		88	1	19	26	41	1.17		0.54	0	4	21	8	2	nw.	F. E. Magall
Howard	Williams	2,275	5	44.4		84	1	13	26	39	0.39		0.36	T.	3	10	11	10	sw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	51.2	+5.7	89	1	22	27	48	2.00	+1.08	1.55	0	6	9	4	18	ne.	T. Pettigrew
Lakota	Nelson	1,579	13	50.0	+7.7	89	* 1	18	26	45	1.52	+0.67	0.65	0	5	14	11	6	nw.	C. R. Pettes
Lamoine	Kidder		6	[c]51.0		[c]88	* 1	[c]14	27	[c]47	0.72		0.72	0	1					E. V. Virgin
Langdon	Cavalier	1,615	18	49.0		88	1	16	26	42	1.45		0.48	0	8	20	6	5	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	51.9	+7.5	89	1	18	26	39	2.05	+0.74	0.90	0	6	23	3	5	nw.	G. G. Graham
Lisbon	Ransom	1,091	10	49.9	+5.0	86	* 1	24	[a]19	46	0.11	−1.11	0.11	0	1	21	2	8	nw.	W. S. Adams
McHenry	Foster	1,509	4	50.8		88	1	19	[a]26	41	1.52		1.10	0	3	19	8	4	nw.	P. E. Truden
McKinney	Renville	1,640	20	49.4	+7.6	90	* 1	5	27	60	1.06	+0.28	0.42	0	4	6	18	7	sc.	N. P. Swenson
McLeod	Ransom	1,075	2								0.07		0.05	0	3	17	6	8	sw.	M. Reinholt
Maddock	Benson																			W. M. Jackson
Mandan	Morton	1,644	1								0.90		0.49	0	7					N. Gt. P. F. Sta.
Manfred	Wells	1,605	11	50.0	+6.2	88	1	16	26	42	1.06	+0.18	0.46	0	4	20	4	7	sw.	P. B. Anderson
Manning	Dunn										0.35		0.20	0	2					A. J. Bretzlaff
Marmarth	Billings		5								[a]21	12	1.19		0.60	0.2	5		sw.	S. P. Grane
Marstonmoor	Stutsman		5	48.7		90	2	16	27	54	1.50		1.21	T.	2	19	5	7	se.	H. H. McCumber
Mayville	Traill	975	18	53.5	+8.3	88	1	20	26	44	1.76	+0.52	1.15	0	3	20	2	9	nw.	W. C. Gould
Melville	Foster	1,590	16	53.2	−9.5	[i]92	2	[i]16	26	48	1.28	+0.38	0.80	0	3					J. P. Kidder
Milnor	Sargent	1,097	2								0.95		0.72	0	3	20	6	5	n.	Hj. Edman
Minot	Ward	1,557	18	48.7	+4.3	89	2	16	[a]26	54	0.30	−0.47	0.25	0	2	9	17	5	sw.	B. L. Faris
Minto	Walsh	820	21	52.2	+9.0	[a]89	1	17	26	[a]44	1.24	+0.05	0.65	0	4	18	4	9		S. S. Marsh
Mott	Hettinger	2,424	7	50.9		86	16	18	28	55	0.64		0.48	0	5	13	8	10	nw.	O. H. Opland
Napoleon	Logan	1,955	22	49.7	+7.8	90	2	16	27	50	1.98	+1.10	1.55	0	7	18	5	8	sw.	C. J. Hoof
New England	Hettinger	2,400	20																	J. M. Connolly
New Rockford	Eddy	1,531	3	50.5		85	18	10	29	56	1.50		1.00	0	2	7	17	7	nw.	H. H. Maxwell
New Salem	Morton	2,163	9	49.8		88	2	17	28	48	0.58		0.42	0	6	14	11	6	se.	J. Christiansen
Orange	Adams	2,586	5	48.0		85	16	21	11	48	1.29		0.61	0	5	11	11	9	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	52.4		85	2	20	26	41	1.05		0.43	0	5	17	9	5	nw.	J. J. Taylor
Park River	Walsh	908	10	51.8	+7.9	89	2	17	26	44	1.36	+0.29	0.52	0	7	14	12	5	s.	G. M. Hargrave
Pembina	Pembina	789	40	49.8	+9.0	89	1	10	26	37	0.80	−0.69	0.22	0	5	15	11	5	sw.	C. W. Shumaker
Power	Richland	1,020	22	52.4	+7.3	[a]86	2	[a]15	27	[a]45	0.89	−0.63	0.60	0	3	20	2	9	nw.	J. A. Power
Powers Lake	Burke	2,205									0.20		0.20	0	1	15	12	4	nw.	C. Frank
Ranger	Billings		2								0.49		0.22	0	4	10	9	12	nw.	C. M. Hubbard
Steele	Kidder	1,857	17																	H. S. Wood
Towner	McHenry	1,482	12	50.6	+7.7	88	4	15	26	48	0.72	−0.39	0.42	0	4	16	7	8	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	45.6		86	* 1	0	26	56	1.14		0.65	T.	6	[a]20	5	6	s.	E. G. Ranum
University	Grand Forks	830	22	51.7	−7.7	88	1	19	26	40	1.80	+0.52	1.04	0	6	19	5	7	se.	U. S. W. B.
Wahpeton	Richland	962	20	49.4	+2.6	83	18	18	27	40	1.41	−0.23	0.67	0	6	18	7	6	nw.	F. E. Smith
Walhalla	Pembina	966	7	53.4		91	2	11	26	51	1.01		0.56	0	3	20	6	5	s.	I. DeL. Lee
Washburn	McLean	1,734	16																	A. Wacker
Westhope	Bottineau	1,508	8	47.5		88	1	6	25	53	0.13		0.09	0	3	16	9	6	se.	C. M. Condit
Williston	Williams	1,875	35	48.8	[+]5.9	83	17	17	26	45	0.38	−0.39	0.23	T.	6	8	12	11	sw.	U. S. W. B.
Willow City	Bottineau	1,171	22	46.0	+3.8	86	3	11	26	50	0.44	−0.23	0.26	0	3	8	19	4	e.	M. A. Ostby
Zap	Mercer		1	48.5		85	* 2	17	26	19	1.33		0.63	0	5	16	9	6	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	52.8	+10.0	86	1	21	27	39	0.99	−1.08	0.45	0	7	18	7	6	se.	U. S. W. B.
Averages				50.0	[+]6.2	97	2	0	26	60	0.98	−0.06	1.55	T.	4	16	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. [+]Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for October, 1914.

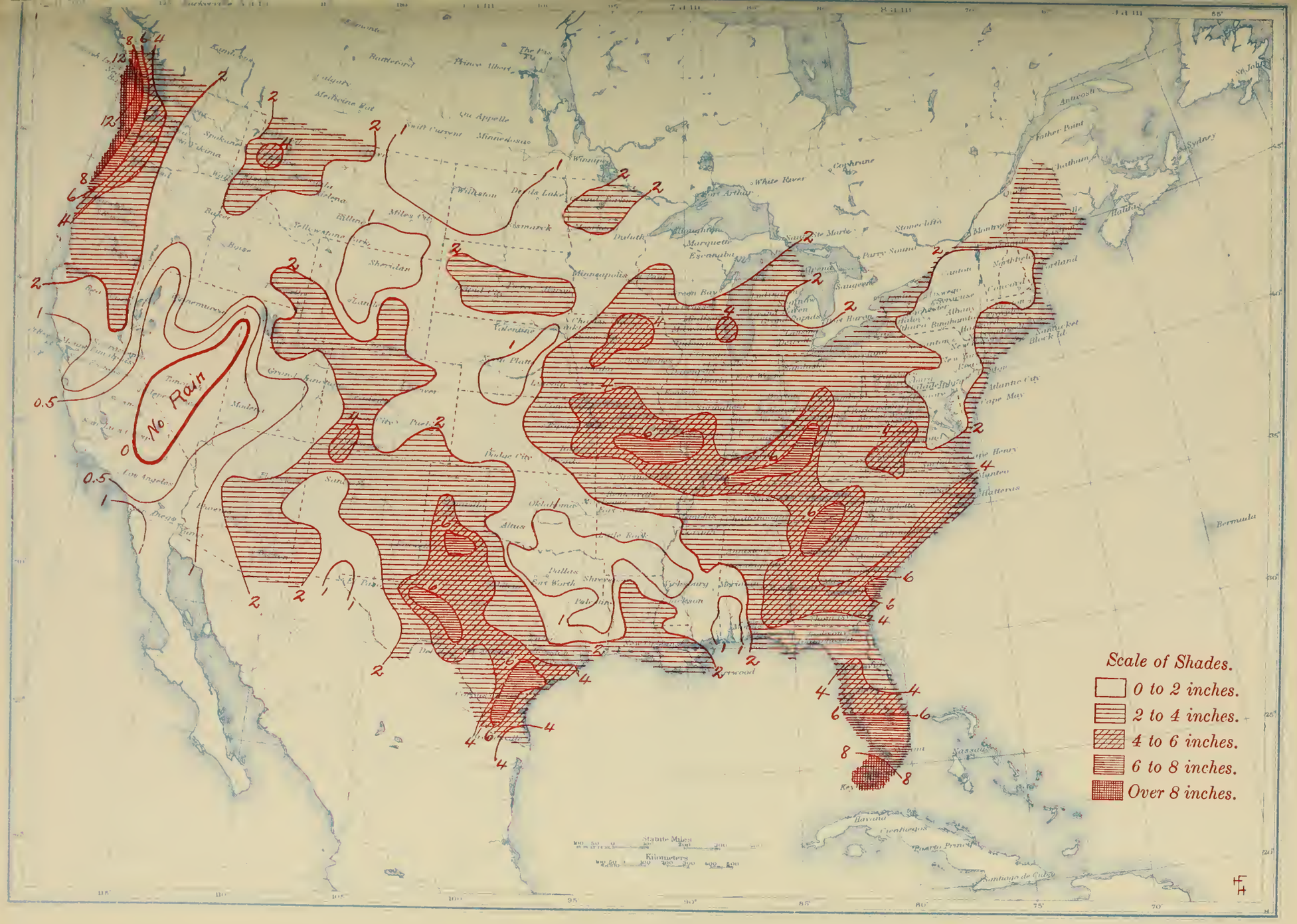
Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red					.30			.30	T.	.12													.50								1.32
Aplin	Knife			.03			.08					T.												.65								0.76
Ashley	Missouri		.02			.40						T.	.07											.17	.41							1.07
Beach	Lit. Missouri			.32		.06		T.	T.		T.								T.	.05				.19								0.62
Berthold Agency	Missouri		T.	.01	.01		.25		.02	T.			.02											.17								0.48
Bismarck ***	Missouri			.02		.06	.09	.03		T.			.11							.04				.42	.02							0.79
Bottineau ‖ ‖	Mouse				T.			.31		.17	.02	.02								T.					.16							0.68
Bowbells ‖ ‖	Mouse				.07		.23		.08	.10	.05										.03											0.56
Bowman	Grand				.20		.22																.27	.19								0.88
Buford	Missouri				.40		.05			.05	.05																						0.55
Cando	Sheyenne	T.						.48				.22								.10			.11	.08									0.99
Carson	Heart				T.			.07		T.	T.		T.							.06			.28	.35									0.76
Colgate	Sheyenne					.16		.45			.07	T.												.57		T.							1.25
Crosby	Mouse																																
Devils Lake ***	Sheyenne				.02			T.	.44		.23		.01							.01			.30	.14									1.15
Dickinson	Heart	T.			.12		.01																.26	.03									0.42
Donnybrook	Mouse																																
Dunseith	Mouse							T.			.63									.03			.14			T.							0.80
Eckman	Mouse				.02	T.	.18			T.	.13								.01				.17										0.51
Edgeley	James												.30										.24	.42									0.96
Energy	Missouri				T.		.09						.04						.04		.46												0.63
Epping	Missouri		T.		.34			.13			.26																						0.73
Fessenden ‖ ‖	James		T.		T.			.29	T.				.04	.01						.02				.70									1.06
Forman	Sheyenne				.07			.74			.14		.04											.09			.05						1.13
Fullerton	James			T.	.06		T.	.29	T.				T.										T.	.29									0.64
Garrison	Missouri		T.	T.		T.	.14					T.							T.					.76									0.90
Goodall	Missouri																																
Grafton ‖ ‖	Red				.21			.18		.21		.32	.05											.59			T.						1.56
Granville	Mouse																																
Hannah	Pembina				.09		T.		.71		.28	T.														T.							1.08
Hansboro	Red						.10		.70		.70	.10																					1.60
Hettinger	Grand																																
Hillsboro	Red					.11		T.	.47		.05													.54								T.	1.17
Howard	Missouri	T.	T.		.02		T.	T.		T.	.36	T.	T.						T.		.01		T.										0.39
Jamestown ‖ ‖	James					.07			.32				.02	.04									1.55										2.00
Lakota	Sheyenne		T.			.10			.65		.10	T.	.05							T.			T.	.62		T.							1.52
Lamoine	Missouri				T.			T.	T.	T.	T.		T.										T.	.72									0.72
Langdon ‖	Pembina					.21			.18	.48		.40	.04							.05				.08			.01						1.45
Larimore ‖	Red					.26			.33			.29	.07									.20		.90									2.05
Lisbon ‖	Sheyenne		T.			.11		T.								T.																	0.11
McHenry	James				T.			T.	.40			T.	.02										1.10										1.52
McKinney	Mouse		12		.20					.22			.42																				1.06
McLeod	Sheyenne								.05		.01												.01										0.07
Maddock	Sheyenne																																
Mandan	Missouri					.05		.07	.15	.03			.03							.08				.49										0.90
Manfred	Sheyenne				T.			T.	.39				.06											.15	.46									1.06
Manning	Knife				.20																			.15										0.35
Marmarth	Lit. Missouri				.46	.01	.06			.01		T.								.05				.60										1.19
Marstonmoor	James		T.		T.	T.			T.	T.			.29										T.	1.21								T.	1.50
Mayville	Red					.05			.56															1.15										1.76
Melville	James		T.						.28				.20											.80										1.28
Milnor	Red				T.	T.			.72		.21		.52											T.	T.									0.95
Minot ‖	Mouse		T.	T.		T.		.05				T.	T.							T.				.25										0.30
Minto	Red								.23		.25	.11												.65										1.24
Mott	Cannon Ball				.08		.03		.02										.03					.48										0.64
Napoleon ‖	Missouri					.02		.18	.05	.02			.06	.10										1.55										1.98
New England	Cannon Ball																																
New Rockford	James							.50	1.00																								1.50
New Salem	Heart				.01			.02			.01		.05										.42	.07									0.58
Orange	Cannon Ball				.06				.06	.03													.61	.53									1.29
Oriska	Sheyenne				T.	.18		.02	.40	T.	T.	.02											T.	.43									1.05
Park River	Red	.02				.25			.33	T.	.17	.06	.01											.52		T.								1.35
Pembina ‖	Red				.18	T.	T.	T.	.12		.22										.10				.18	T.	T.							0.80
Power	Sheyenne								.60	.23		T.	T.											.06									T.	0.89
Powers Lake	Missouri	T.		T.	T.		.20																										0.20
Ranger	Lit. Missouri			T.	.22		.05				.04										T.			.18	T.									0.49
Steele	Missouri																																
Towner	Mouse							.08	.16			.06												.42										0.72
Turtle Lake	Missouri				T.			.65	.08				.03						.08					.20	.10									1.14
University	Red			T.	T.	.10			.27		.38	T.	T.											.60	.44				T.				.01	1.80
Wahpeton ‖	Red					.26		.03	.67		.35		.01												.09									1.41
Walhalla	Pembina					T.		T.	.45			.56											T.	T.										1.01
Washburn	Missouri																																
Westhope	Mouse										.09		.02											.02										0.13
Williston ***	Missouri	.04	.01		.23		.03		T.	.01	.06		T.						T.		T.													0.38
Willow City	Mouse						T.	.03	.15	T.														.26										0.44
Zap	Knife				.63		.09						.03							.16				.42										1.33
Moorhead, Minn ***	Red				.06	.09			.45		.21		.01											.11	.06		T.					T.		0.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	85	85	84	79	70	80	75	67	70	65	60	50	52	69	70	73	77	70	65	60	59	60	60	55	50	35	45	45	45	49	50	63.2
	Minimum	43	55	58	62	38	39	55	53	50	45	40	34	30	24	30	24	33	39	45	36	34	40	42	30	28	20	18	35	30	23	24	37.3
Aplin	Maximum	86	88	87	73	66	60	59	58	61	50	46	40	50	74	76	—	85	80	—	—	—	—	75	—	60	48	—	52	—	—	74	[1]65.8
	Minimum	52	40	43	41	23	45	34	31	30	30	30	34	28	30	30	—	35	45	—	—	—	—	30	—	28	15	—	25	—	—	22	[1]32.8
Ashley	Maximum	86	88	80	68	68	70	50	64	58	53	48	48	50	60	73	77	83	84	70	74	72	65	61	53	59	47	50	54	57	71	67	65.1
	Minimum	54	52	62	43	30	38	44	45	44	33	29	34	33	22	32	31	36	49	42	39	42	54	38	36	32	22	21	31	37	28	42	37.6
Beach	Maximum	85	85	83	60	60	48	53	62	55	54	40	44	50	74	75	85	83	68	70	65	77	63	45	61	57	48	56	55	66	73	65	63.1
	Minimum	47	45	44	35	27	32	30	29	32	35	31	29	24	32	30	41	35	43	33	37	35	43	31	22	26	25	25	27	20	31	38	32.7
Berthold Agency	Maximum	—	—	86	77	66	60	56	60	60	51	46	43	51	76	77	86	75	74	71	66	76	65	54	61	59	49	54	48	63	74	68	[1]63.9
	Minimum	56	45	41	42	25	41	33	32	29	33	37	35	33	30	31	44	31	34	32	39	26	46	39	23	29	14	23	26	19	25	34	33.1
Bismarck	Maximum	89	87	84	70	70	72	49	54	56	51	47	41	49	68	73	85	84	82	70	70	75	69	50	57	58	44	54	55	61	75	68	65.1
	Minimum	62	51	60	41	33	49	41	38	38	32	30	34	30	29	32	41	36	41	41	38	35	45	32	27	34	21	24	31	26	33	41	37.0
Bottineau §§	Maximum	84	86	87	66	67	67	51	55	60	48	40	43	51	70	73	81	80	74	67	67	70	59	55	53	52	41	53	52	58	71	62	62.6
	Minimum	52	52	52	50	26	29	49	35	31	33	32	34	23	27	29	39	44	39	36	36	33	43	38	25	25	15	16	23	22	25	33	33.7
Bowbells §§	Maximum	87	85	78	61	66	56	53	61	60	43	40	45	47	75	84	83	81	78	68	64	68	55	51	53	54	51	50	52	54	56	71	62.3
	Minimum	51	52	50	45	28	31	36	31	30	30	34	21	27	26	46	41	41	40	40	36	28	31	33	21	20	11	10	21	20	23	25	31.6
Carson	Maximum	84	86	82	72	67	63	54	53	56	54	44	42	46	70	73	84	82	83	69	68	76	65	46	57	60	48	56	55	62	75	68	64.5
	Minimum	52	42	54	41	24	44	35	30	28	27	24	35	30	26	26	35	29	32	34	32	28	46	38	22	28	18	22	31	18	26	34	32.0
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	89	86	82	75	63	67	62	53	54	49	43	39	49	65	70	79	79	82	66	68	71	66	52	52	50	36	48	51	54	69	67	62.5
	Minimum	55	56	62	45	36	42	47	44	35	42	38	30	25	33	39	44	43	47	44	44	38	46	36	33	28	19	27	29	26	33	42	39.0
Dickinson	Maximum	86	84	82	70	64	50	55	58	59	52	42	40	53	73	76	84	81	72	71	66	77	64	45	60	58	47	57	53	64	73	64	63.9
	Minimum	42	42	40	38	27	34	30	25	26	32	33	34	35	28	27	40	32	35	34	39	36	44	37	21	32	19	22	30	20	26	40	32.3
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Dunseith	Maximum	83	84	84	68	63	65	54	58	62	50	43	42	48	67	71	76	78	74	65	64	69	60	53	52	49	40	50	55	55	68	68	61.9
	Minimum	50	51	51	44	29	48	42	41	33	40	34	32	21	25	38	37	49	36	40	37	42	46	35	24	29	15	15	20	20	24	24	34.6
Edgeley	Maximum	87	86	82	73	72	66	62	62	56	54	52	45	42	64	73	77	84	86	70	76	74	65	62	55	59	47	52	60	67	73	68	66.2
	Minimum	47	54	59	50	30	30	51	45	38	35	31	37	40	22	39	35	37	41	34	36	36	52	36	28	36	23	19	30	35	36	39	37.5
Fessenden §§	Maximum	88	91	84	71	67	70	68	57	52	53	43	41	52	66	75	81	84	86	68	70	73	67	52	54	54	41	52	53	60	71	69	64.9
	Minimum	49	49	49	59	29	37	44	42	31	31	33	34	29	25	32	36	33	36	38	36	30	36	39	26	31	18	19	28	25	27	41	34.6
Forman	Maximum	87	87	84	77	73	72	68	63	63	59	52	48	49	59	74	74	86	81	69	79	72	73	66	48	48	46	45	49	51	56	55	64.9
	Minimum	58	62	64	60	33	36	55	50	48	43	31	39	37	24	33	30	39	46	46	43	41	56	43	23	29	21	16	30	24	25	36	39.4
Fullerton	Maximum	84	84	81	74	66	69	69	60	56	54	50	42	49	59	72	73	80	80	70	76	72	68	64	53	58	48	63	56	58	64	65	64.7
	Minimum	49	59	63	41	32	35	49	46	40	36	30	38	35	21	29	33	37	39	48	49	39	51	36	28	30	21	16	31	27	24	34	37.4
Garrison	Maximum	82	86	84	74	66	65	57	57	60	50	46	46	52	73	75	85	84	79	69	67	75	62	54	57	56	45	55	55	63	74	68	65.2
	Minimum	50	45	48	42	26	50	36	30	26	30	36	32	25	29	36	40	34	37	39	38	30	45	35	26	30	14	23	28	22	22	42	33.7
Grafton §§	Maximum	91	88	85	76	66	71	59	54	63	57	55	44	52	60	70	77	—	—	—	76	74	69	58	55	52	49	51	50	58	68	68	°64.1
	Minimum	48	56	60	63	47	35	41	48	40	45	37	38	24	27	33	40	36	—	—	—	30	38	40	30	34	16	20	31	32	24	31	°37.3
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hannah	Maximum	84	83	80	74	72	70	67	57	64	54	47	43	49	64	70	76	75	79	75	65	70	64	54	50	46	43	54	91	64	67	68	64.2
	Minimum	45	47	44	40	32	39	45	41	28	30	32	29	18	28	33	38	39	49	48	39	28	47	37	18	24	10	15	18	29	29	34	33.2
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum	89	91	86	74	77	70	63	54	77	50	49	46	60	62	82	78	84	80	76	72	69	60	50	54	50	48	57	55	61	67	70	66.5
	Minimum	50	44	40	48	27	39	40	42	29	41	34	32	21	28	37	33	42	38	39	29	44	38	28	26	33	14	19	30	24	26	35	33.9
Howard	Maximum	84	76	69	50	59	53	50	60	53	45	40	38	56	70	72	79	81	54	54	48	55	41	57	55	46	58	40	46	42	56	50	56.0
	Minimum	45	50	48	39	27	30	34	28	32	35	32	32	26	36	34	46	46	41	34	38	31	29	28	26	26	13	26	22	22	28	34	32.8
Jamestown §§	Maximum	89	88	85	78	67	70	60	57	54	55	50	43	52	62	72	84	84	84	74	76	78	72	51	88	57	38	57	52	59	74	69	66.0
	Minimum	45	50	57	61	35	36	41	44	44	39	38	38	33	26	26	38	36	38	42	36	33	40	41	30	30	25	22	24	27	26	29	36.5
Lakota	Maximum	89	89	84	75	64	69	60	53	57	49	44	40	51	62	70	79	77	81	66	65	71	74	58	54	49	36	49	53	53	64	67	63.0
	Minimum	53	50	64	49	26	36	40	44	35	42	35	37	24	28	37	34	38	40	44	39	51	52	39	29	26	28	20	28	25	25	37	36.9
Lamoine	Maximum	88	88	82	73	68	71	56	57	56	51	42	38	50	64	72	80	85	83	67	68	73	70	54	—	—	—	50	54	57	70	67	°65.5
	Minimum	56	48	62	42	28	49	42	40	27	27	35	32	27	24	35	39	38	38	38	33	42	51	37	—	—	—	14	24	24	28	42	°36.5
Langdon	Maximum	88	84	80	72	65	66	63	50	57	51	43	38	52	60	67	74	74	80	68	60	68	63	52	52	47	36	50	48	54	67	64	61.1
	Minimum	57	53	55	59	35	42	44	45	32	33	34	34	23	30	36	40	42	45	43	42	38	41	38	25	31	16	18	26	21	25	36	34.8
Larimore §§	Maximum	89	82	82	75	65	68	60	54	60	58	48	45	50	62	67	74	75	73	73	72	72	68	69	57	48	39	51	54	56	66	67	63.8
	Minimum	53	63	62	62	36	34	51	57	41	45	37	38	26	28	39	35	38	42	47	39	37	55	40	23	33	18	22	31	28	28	45	40.0
Lisbon §§	Maximum	86	86	82	74	74	72	68	70	74	70	64	66	70	72	68	64	55	58	54	52	54	60	58	56	60	62	60	65	60	62	64	65.8
	Minimum	40	52	55	51	32	30	35	34	36	36	32	30	31	38	36	34	30	30	24	24	26	28	30	28	29	30	34	34	38	32	34	34.0
McHenry	Maximum	88	88	82	76	62	70	63	53	56	56	46	42	49	64	70	78	81	80	76	69	76	68	65	57	53	36	53	53	54	69	65	64.5
	Minimum	53	56	61	47	32	42	52	45	35	35	35	34	27	25	31	48	40	44	40	38	38	38	39	27	30	19	19	26	22	31	41	37.1
McKinney	Maximum	90	84	75	65	67	63	59	64	62	50	56	45	65	56	60	83	81	85	59	74	70	72	67	65	46	55	65	46	58	62	80	67.5
	Minimum	54	53	50	10	24	40	38	25	27	32	30	31	31	19	28	30	30	30	37	40	43	24	48	25	20	30	5	18	19	29	20	31.4
Manfred	Maximum	88	85	83	71	67	70	56	55	53	53	45	40	50	65	68	78	82	81	65	72	73	66	54	53	53	53	52	53	58	68	60	63.5
	Minimum	56	46	60	47	29	43	46	43	32	31	33	35	28	28	34	42	56	42	40	30	30	40	40	28	32	16	21	29	25	29	43	36.6
Marmarth	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Minot §§	Maximum	84	89	71	57	58	67	59	60	63	53	46	41	51	73	76	85	87	79	70	70	73	59	52	60	55	49	58	56	63	73	69	64.7
	Minimum	54	51	49	49	30	29	42	32	29	29	37	33	18	19	34	33	34	33	34	39	27	27	36	26	29	16	16	28	32	33	35	32.7
Mott	Maximum	82	79	77	63	72	67	60	62	56	47	50	55	61	76	75	86	81	79	83	78	78	72	78	77	62	65	70	70	71	68	67	69.9
	Minimum	40	43	38	38	25	34	30	29	32	28	30	31	20	30	40	41	45	46	43	40	42	35	23	22	24	20	21	18	22	28	32	31.9
Napoleon §§	Maximum	89	90	85	67	70	74	58	67	56	56	48	41	52	63	75	80	87	85	71	74	74	70	49	54	56	41	46	55	58	70	70	65.5
	Minimum	50	56	55	59	26	30	45	40	36	26	26	30	30	20	28	30	40	41	42	35	36	44	38	22	30	15	16	20	23	26	30	33.7
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Rockford	Maximum	82	84	80	79	74	76	70	62	68	56	48	52	53	64	69	70	80	85	72	71	68	67	65	60	50	56	72	50	66	68	70	67.3
	Minimum	50	63	61	58	60	58	30	40	30	27	20	43	30	15	14	45	47	46	32	26	34	31	32	16	14	15	20	30	10	18	20	33.7
New Salem	Maximum	87	88	86	74	68	64	56	55	56	51	47	43	47	72	76	87	83	86	69	70	76	63	49	58	59	46	56	55	50	71	68	65.0
	Minimum	55	47	46	40	26	44	35	30	27	29	26	32	30	28	37	39	87	40	38	38	34	42	34	28	33	17	22	29	26	36	46	34.5
Orange	Maximum	77	79	81	60	66	60	54	50	56	56	41	34	51	69	74	85	81	82	68	75	68	57	45	55	60	46	56	55	62	75	67	62.7
	Minimum	57	50	45	39	29	39	31	32	30	27	21	34	31	26	31	38	35	34	34	37	39	45	27	22	30	22	24	31	32	23	35	33.4
Oriska	Maximum	82	85	80	75	67	70	62	59	60	58	49	43	50	61	71	75	78	82	82	74	74	69	63	57	57	38	53	55	56	67	70	65.2
	Minimum	44	55	60	59	34	30	54	48	42	45	38	41	30	25	38	31	50	48	38	36	36	54	42	30	34	20	23	33	30	32	45	39.5
Park River	Maximum	78	89	84	76	71	70	67	58	60	56	47	42	50	62	68	77	74	79	75	72	73	67	69	55	51	38	50	52	56	68	68	64.6
	Minimum	44	45	54	61	41	33	44	46	38	44	37	38	27	25	45	42	40	41	47	48	39	44	41	32	35	17	25	32	27	32	45	39.0
Pembina §§	Maximum	89	82	86	82	78	71	58	51	64	60	48	51	52	52	60	62	68	66	68	70	69	67	62	54	41	46	48	54	61	62	68	62.9
	Minimum	52	55	58	51	49	36	42	42	34	42	38	26	31	32	32	33	36	36	36	36	37	36	41	38	36	26	10	24	29	28	29	34	36.6
Power	Maximum	82	86	90	86	80	71	70	64	—	60	54	49	52	58	70	74	84	80	73	80	76	60	49	71	60	40	51	56	60	68	69	[2]66.8
	Minimum	52	56	56	55	37	39	42	49	—	46	41	39	38	22	32	31	39	44	48	44	40	40	33	25	30	22	15	32	22	30	38	[2]37.9
Towner	Maximum	84	87	87	88	67	71	64	58	60	54	46	42	52	71	73	83	84	79	68	69	73	65	53	55	53	42	55	54	58	71	68	65.9
	Minimum	49	47	45	47	29	30	45	38	31	33	33	35	21	30	35	43	36	42	38	43	28	50	39	26	30	15	22	26	22	28	41	35.4
Turtle Lake	Maximum	86	86	84	75	68	68	65	56	56	58	45	41	50	64	73	81	83	79	67	69	74	62	51	57	57	48	49	56	59	72	68	64.7
	Minimum	53	69	52	25	50	60	32	51	36	28	19	12	5	14	20	26	27	25	25	23	20	32	23	11	15	0	11	12	20	20	28	26.6
University	Maximum	88	84	83	77	66	71	63	57	60	57	46	66	50	60	68	74	75	75	70	73	74	70	55	55	51	34	50	50	56	63	66	63.5
	Minimum	56	66	64	54	45	33	54	51	46	45	38	46	26	26	34	35	36	50	44	41	34	55	42	25	30	19	22	30	29	28	38	39.9
Wahpeton §§	Maximum	80	75	82	78	67	69	69	65	60	59	52	52	52	56	65	71	76	83	76	72	73	72	53	56	43	36	58	56	58	67	63	65.0
	Minimum	45	48	47	62	40	39	50	55	50	43	34	39	31	28	34	36	37	48	45	40	43	50	43	25	31	21	18	29	26	27	35	38.7
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	88	84	87	75	68	70	61	55	60	52	43	41	54	72	74	85	71	70	70	70	71	64	56	57	43	56	56	55	51	74	43	63.9
	Minimum	48	49	48	44	25	50	42	31	26	30	32	34	15	28	31	40	31	30	43	34	25	48	37	17	6	12	14	25	17	21	31	31.1
Williston	Maximum	83	78	75	55	60	53	51	62	51	42	41	41	56	72	75	81	82	71	69	59	73	39	52	59	54	46	55	53	62	72	65	61.5
	Minimum	49	51	48	40	32	35	37	33	37	37	36	35	34	38	33	45	38	46	39	42	36	44	32	29	27	17	26	29	24	30	41	36.2
Willow City	Maximum	83	85	86	75	58	64	62	51	55	50	54	36	38	60	60	69	80	64	57	57	68	55	46	55	48	44	53	64	51	71	64	60.1
	Minimum	46	47	46	45	29	48	45	38	28	30	33	23	15	25	30	40	34	34	35	37	18	46	38	22	26	11	16	24	18	22	30	32.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs


No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1914

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 26, 1914.

Departure of the Mean Temperature from the Normal, November, 1914.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., NOVEMBER, 1914. No. 11.

GENERAL SUMMARY.

With a mean temperature nearly five degrees above the normal, considerably more than the usual sunshine, precipitation but slightly more than one-half of the average, nearly normal wind movement, and no severe storms, the weather throughout the State was very favorable for fall work, for livestock on the ranges, and for personal comfort. Preceded by two months of exceptionally fine weather, the fall of 1914 will long be remembered as being nearly ideal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.04 inches. The highest was 30.67 inches at Bismarck, Burleigh County, on the 19th; the lowest was 29.58 inches at University on the 2d.

TEMPERATURE.

The mean temperature for the State was 30.7°, or 4.9° above the normal, and 3.4° lower than the mean for November, 1913. The highest monthly mean reported was 35.8° at New England, Hettinger County; the lowest was 19.2° at Hannah, Cavalier County. The highest temperature reported was 83° at Cando, Towner County, on the 2d; the lowest was −30° at Westhope, Bottineau County, on the 16th. The greatest monthly range was 106° at Cando, Towner County; the least was 65° at Beach, Golden Valley County. The greatest daily range was 68° at Willow City, Bottineau County, on the 9th. The distribution of temperature was quite uniform. Usually the highest temperature occurred on the 2d, and the lowest on either the 17th or 19th.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of five recording stations, was 75 per cent.

PRECIPITATION.

The average precipitation for the State was 0.35 inch, or 0.25 inch below the normal, and 0.13 inch more than the average for November, 1913. The greatest monthly amount reported was 0.83 inch at Willow City, Bottineau County; the least was none at Orange, Adams County. The greatest amount recorded in any twenty-four consecutive hours was 0.69 inch at Wahpeton, Richland County, on the 13th. The average number of days with 0.01 inch or more of precipitation was two. The greater portion of the precipitation occurred in the form of snow, the average fall for the State being 2.6 inches. There were but two stormy periods during the month. On the 2d, 3d and 4th, light showers occurred, while from the 11th to the 15th a snowstorm passed over the State..

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.2 miles. The greatest wind movement was 9,046 miles at Devils Lake, an average of 12.6 miles per hour; the least was 5,256 miles at Williston, an average of 7.3 miles per hour. The maximum velocity for a period of five minutes was at the rate of 50 miles per hour from the northwest at Williston on the 2d, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 13, partly cloudy 10, and cloudy 7.

ERRATA, OCTOBER, 1914.

Page 76: Dickinson, highest temperature should be 86° on the 1st; Napoleon, monthly mean should be 49.6°; Power, monthly mean should be 52.6°; Wahpeton, monthly mean should be 51.8°.

Page 78: Napoleon, mean maximum should be 65.5°; Power, mean maximum should be 67.4°.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1891	20.5	−5.3	71	−35	0.86	+0.26
1892	22.3	−3.5	75	−26	0.79	+0.19
1893	22.4	−3.4	74	−27	0.57	−0.03
1894	23.1	−2.7	71	−25	0.47	−0.13
1895	20.6	−5.2	76	−25	1.08	+0.48
1896	8.1	−17.7	62	−32	2.23	+1.63
1897	20.0	−5.8	86	−28	0.32	−0.28
1898	23.0	−2.8	69	−30	0.34	−0.26
1899	36.0	+10.2	68	2	0.81	+0.21
1900	20.4	−5.4	64	−29	0.32	−0.28
1901	26.8	+1.0	70	− 7	0.19	−0.41
1902	29.6	+3.8	69	−12	0.24	−0.36
1903	25.3	−0.5	78	−20	0.26	−0.34
1904	35.7	+9.9	80	−10	0.09	−0.51
1905	31.6	+5.8	88	−38	1.54	+0.94
1906	23.8	−2.2	68	−16	1.62	+1.02
1907	30.2	+4.4	85	−15	0.09	−0.51
1908	31.1	+5.3	75	−15	0.97	+0.37
1909	29.4	+3.6	88	−23	0.43	−0.17
1910	23.9	−1.9	68	−23	0.37	−0.23
1911	16.7	−9.1	58	−33	0.65	+0.05
1912	31.8	+6.0	70	1	0.06	−0.54
1913	34.1	+8.3	77	− 2	0.22	−0.38
1914	30.7	+4.9	83	−30	0.35	−0.25

Climatological Data for November, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	18																	C. E. Wood
Aplin	Oliver		7																	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	34.8	+8.8	66	1	−13	18	39	0.21	−0.32	0.11	1.0	2	19	7	4	nw.	R. C. Miles
Beach	Golden Valley	2,576	8	34.9	.....	65	25	0	19	48	0.31	.....	0.20	0.2	2	21	7	2	nw.	D. J. Steiner
Berthold Agency	McLean	2,082	20	33.4	+5.9	67	*1	−10	19	48	0.46	−0.08	0.46	T.	1	8	17	5	nw.	C. L. Hall
Bismarck	Burleigh	1,674	40	34.6	+8.6	67	1	− 9	19	39	0.42	−0.26	0.42	3.2	1	13	11	6	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	25.8	+3.6	60	*1	−24	17	51	0.51	−0.09	0.18	.....	6	6	12	12	sc.	H. F. Steinmeier
Bowbells	Burke	1,958	2																	G. H. Phelps
Bowman	Bowman			35.2	.....	68	5	− 1	19	50	0.05	.....	0.04	0.4	2	14	0	16	.....	L. S. Diehl
Buford	Williams	1,944	35	33.8	+7.0	66	25	− 4	*17	40	0.21	−0.27	0.11	1.0	2	4	15	11	nw.	C. H. McCune
Cando	Towner	1,488	13	29.2[a]	+4.0	83[a]	2	−23[a]	17	45[a]	0.25	−0.25	0.17	.....	2					E. T. Judd
Carson	Morton		2	33.9	.....	69	25	−12	19	43	0.12	.....	0.12	T.	1	18	6	6	w.	D. L. Basquin
Colgate	Steele	1,177									0.50	.....	0.45	4.5	2	11	12	7	nw.	H. P. Rice
Crosby	Divide	1,954	7																	W. D. Crouch
Devils Lake	Ramsey	1,482	10	29.0	+6.4	63	2	−14	19	36	0.57	−0.14	0.33	4.5	5	8	13	9	w.	U. S. W. B.
Dickinson	Stark	2,543	22	34.4	+7.1	66	*1	− 8	19	44	0.25	−0.28	0.24	0.1	2	3	22	5	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15								0.35	.....	0.20	2.0	2					C. J. DeVore
Dunseith	Rolette	1,682	18	26.4	+1.4	60[a]	2	−23[a]	17	37	0.70	+0.35	0.40	3.0	2	21	1	8	nw.	Geo. Mitchell
Eckman	Bottineau		9	27.8	.....	66[a]	2	−24	17	41[a]	0.07	.....	0.04	4.0	3	21	5	4	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	13	33.8	+4.3	67	2	−12	19	39	0.10	−0.28	0.10	2.0	1	2	19	9	nw.	O. A. Thompson
Energy	McLean		2								0.35	.....	0.35	1.0	1	18	9	3	nw.	N. W. Solenberger
Epping	Williams	2,224	6								0.14	.....	0.10	2.0	2	17	9	4	w.	M. E. Uggen
Fessenden	Wells	1,610	2	29.4	.....	64	*1	−16	19	55	0.36	.....	0.18	2.5	3	21	4	5	nw.	G. T. Seymour
Forman	Sargent	1,249	22	31.2	+4.0	59	*1	−10	19	32	0.59	+0.08	0.50	5.9	2	8	4	18	nw.	A. Maltby
Fullerton	Dickey	1,439	16	33.3	+4.9	66	2	−12	19	40	0.38	−0.30	0.34	3.8	2	12	14	4	nw.	F. O. Alin
Garrison	McLean	1,901	19	32.2	+7.2	65	25	−14	19	39	T.	−0.68	T.	T.	0	11	9	10	nw.	G. L. Robinson
Goodall	McKenzie			32.6	.....	65[a]	1	− 9[a]	19	40[a]	0.25	.....	0.25	0	1					C. H. Layman
Grafton	Walsh	827	22	27.6	+5.1	65	2	−17	17	50	0.45	−0.19	0.35	1.0	3	.....	.....	.....	nw.	A. R. T. Wylie
Granville	McHenry	1,504	7																	W. A. Christianson
Hannah	Cavalier	1,568	9	19.2[b]	.....	51[b]	1	−25[b]	17	35[b]	0.50	.....	0.30	5.0	2	.....	.....	.....	.....	J. Moffatt
Hansboro	Towner	1,597	6	29.7	.....	74[b]	1	−20[b]	17	48[b]	0.50	.....	0.30	3.0	2	.....	.....	.....	nw.	C. E. Blackorby
Hettinger	Adams	2,253	6																	W. R. Lanxon
Hillsboro	Traill	901	8	31.2	.....	64	2	−10	17	41	0.48	.....	0.30	3.5	3	13	11	6	nw.	F. E. Mayall
Howard	Williams	2,275	5	28.6	.....	62	25	−11	*17	36	0.40	.....	0.20	4.0	2	12	12	6	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	32.4	+5.9	70	2	−10	*19	54	0.60	−0.13	0.60	6.0	2	11	6	13	nw.	T. Pettigrew
Lakota	Nelson	1,579	13	27.0	+4.6	64	2	−16	17	46	0.70	−0.08	0.35	10.0	3	12	12	6	w.	C. R. Pettes
Lamoine	Kidder		6	30.7	.....	64	2	−20	19	40	0.60	.....	0.60	6.0	1	14	7	9	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	24.8	.....	62	2	−23	18	45	0.70	.....	0.40	6.0	3	11	12	7	nw.	R. T. Burke
Larimore	Grand Forks	1,134	19	29.5	+5.1	64	2	− 9	19	37	0.31	−0.07	0.17	.....	2	12	8	10	nw.	G. G. Graham
Lisbon	Ransom	1,091	10	32.8	+3.2	56	9	10	*18	30	T.	−0.66	T.	T.	0	7	13	10	nw.	W. S. Adams
McHenry	Foster	1,509	4	28.3	.....	64	2	−15	19	30	0.50	.....	0.30	5.0	2	19	8	3	w.	P. E. Truden
McKinney	Renville	1,640	20	30.4	+7.2	67	2	−22	17	47	0.20	−0.47	0.20	2.0	2	11	14	5	nw.	N. P. Swenson
McLeod	Ransom	1,075	2			70	2	− 5	17	31	0.15	.....	0.15	1.5	1	18	8	4	nw.	M. Reinholt
Maddock	Benson																			W. M. Jackson
Mandan	Morton	1,644	1								0.31	.....	0.31	4.0	1					N. G't. P. F. Sta.
Manfred	Wells	1,605	11	31.0	+3.6	64	2	−15	19	32	0.20	−0.56	0.10	2.5	3	18	8	4	nw.	P. B. Anderson
Manning	Dunn										0.30	.....	0.30	T.	1					A. J. Bretz'aff
Marmarth	Billings		5	35.6	.....	67	25	− 1	16	45	0.01	.....	0.01	T.	1	13	10	7	nw.	S. P. Grane
Marstonmoor	Stutsman		5	28.3	.....	65	*1	−20	19	41[b]	0.44	.....	0.30	3.0	1	16	11	3	nw.	H. H. McCumber
Mayville	Traill	975	18	32.4	+4.6	67	2	−10	17	40	0.15	−0.52	0.15	0	1	17	6	7	nw.	W. C. Gould
Melville	Foster	1,590	16	33.0[d]	+5.5	70[d]	1	−14[d]	19	44[d]	0.40	−0.02	0.40	4.0	1					J. P. Kidder
Milnor	Sargent	1,097	2								0.50	.....	0.50	3.4	1	19	3	8	nw.	Hj. Edman
Minot	Ward	1,557	18	34.7	+5.9	69	2	1	15	48	0.40	−0.23	0.24	3.5	2	8	17	5	nw.	B. L. Faris
Minto	Walsh	820	21	29.1	+4.6	64	3	−16	17	31	0.64	+0.08	0.25	3.0	3	12	8	10	n.	S. S. Marsh
Mott	Hettinger	2,424	7	32.4	.....	67	28	−12	19	54	T	.....	T.	T.	0	8	13	9	nw.	O. H. Opland
Napoleon	Logan	1,955	22	32.4	+7.4	72	2	−16	19	46	0.10	−0.60	0.10	2.0	1	16	4	10	nw.	C. J. Hoof
New England	Hettinger	2,400	20	35.8	+7.4	65[b]	26	− 7[b]	19	37[b]	0.44	−0.11	0.44	T.	1				nw.	J. M. Connolly
New Rockford	Eddy	1,531	3																	H. H. Maxwell
New Salem	Morton	2,163	9	34.4	.....	76	*23	−12	19	45	0.10	.....	0.10	1.0	1	20	4	6	nw.	J. Christiansen
Orange	Adams	2,586	5	33.8	.....	68	26	−11	19	41	0.00	.....	0.00	0	0	16	9	5	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	32.2	.....	77[b]	1	−15[b]	17	42[c]	0.25	.....	0.25	3.0	1	9	16	5	nw.	J. J. Taylor
Park River	Walsh	998	10	28.6	−0.3	65	2	−16	17	34	0.69	−0.15	0.29	4.8	3	3	19	8	nw.	G. M. Hargrave
Pembina	Pembina	789	40	25.6	+3.4	64	1	−18	19	34	0.44	−0.28	0.30	3.0	3	7	12	11	e.	C. W. Shumaker
Power	Richland	1,020	22	32.6	+6.6	69	1	− 8	*17	37	0.34	−0.30	0.34	4.0	1	12	13	5	sw.	J. A. Power
Powers Lake	Burke	2,205									0.24	.....	0.20	2.0	2	8	17	5	nw.	C. Frank
Ranger	Billings		2								0.14	.....	0.10	1.0	3	14	5	11	nw.	C. M. Hubbard
Steele	Kidder	1,857	17																	H. S. Wood
Towner	McHenry	1,482	12	30.3	+9.3	64	2	−21	19	36	0.20	−0.30	0.10	2.0	3	15	9	6	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	25.6	.....	65	1	−27	19	54	0.05	.....	0.05	0.5	1	21	2	7	nw.	C. E. Paulson
University	Grand Forks	830	22	28.4	+5.1	63	2	−11	17	36	0.48	−0.25	0.22	2.4	4	10	8	12	nw.	U. S. W. B.
Wahpeton	Richland	962	20	33.6	+6.8	66	2	− 6	*17	50	0.75	+0.08	0.69	3.0	2	15	9	6	nw.	F. E. Smith
Walhalla	Pembina	966	7	30.1	.....	66	2	−20	19	45	0.60	.....	0.40	6.0	2	22	4	4	s.	I. DeL. Lee
Washburn	McLean	1,734	16																	A. Wacker
Westhope	Bottineau	1,508	8	27.6	.....	63	2	−30	16	42	0.20	.....	0.20	2.0	1	15	10	5	nw.	C. M. Condit
Williston	Williams	1,875	35	32.9	+7.7	62	2	− 7	17	48	0.24	−0.36	0.16	0.6	4	5	13	12	sw.	U. S. W. B.
Willow City	Bottineau	1,471	22	20.8	0.0	62	2	−28	16	68	0.83	+0.42	0.40	7.0	5	7	18	5	nw.	M. A. Ostby
Zap	Mercer		1	33.6	.....	68	25	−10	19	41	0.52	.....	0.52	0.8	1	14	13	3	nw.	H. A. Crandall
Moorhead, Minn	Clay	935	33	31.2	+6.8	64	2	− 6	17	40	0.36	−0.62	0.32	3.2	2	15	8	7	nw.	U. S. W. B.
Averages				30.7	+4.9	83	2	−30	16	68	0.35	−0.25	0.69	2.6	2	13	10	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for November, 1914.

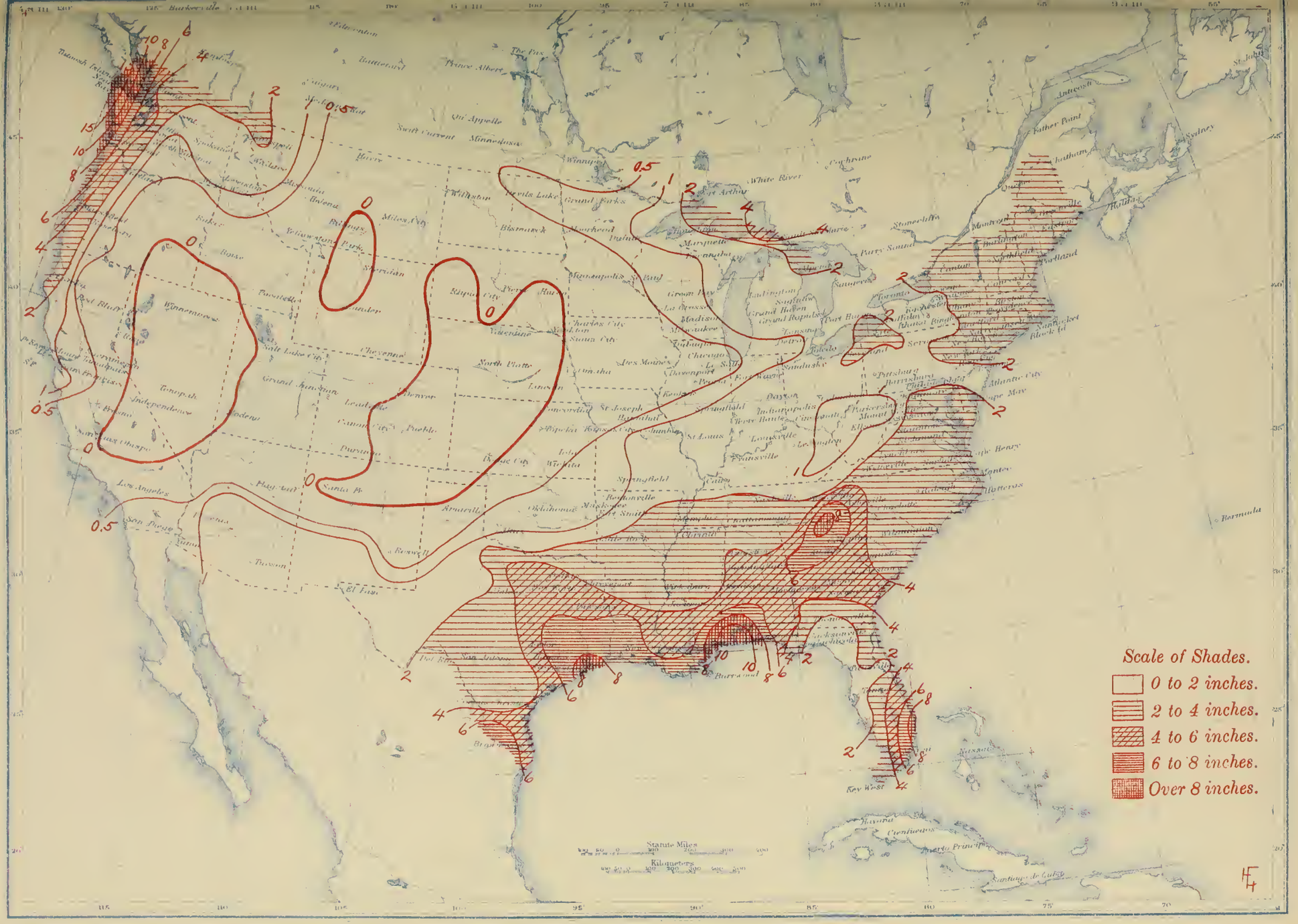
Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red																																
Aplin	Knife																																
Ashley	Missouri											.11		.10																			0.21
Beach	Lit. Missouri												.20	T.				T.													.11		0.31
Berthold Agency	Missouri											T.	.46	T.	T.																		0.46
Bismarck ***	Missouri			T.									.42	T.		T.	T.	T.	T.														0.42
Bottineau ‖ ‖	Mouse		T.	.02	.15								.05	.04	.18	.07																	0.51
Bowbells ‖ ‖	Mouse																																
Bowman	Grand												.01					.04															0.05
Buford	Missouri												.11			.10																	0.21
Cando	Sheyenne					.08							.17																				0.25
Carson	Heart												.12					T.															0.12
Colgate	Sheyenne			.05								T.	.45	T.																			0.50
Crosby	Mouse																																
Devils Lake ***	Sheyenne		T.	.11								.07	.27	.06	.06				T.														0.57
Dickinson	Heart											T.	.24	.01			T.	T.	T.														0.25
Donnybrook	Mouse												.20			.15																	0.35
Dunseith	Mouse		T.	.10								T.	.30	T.	.40																		0.70
Eckman	Mouse			T.								T.	.04	.01	.02																		0.07
Edgeley	James												T.	.10																			0.10
Energy	Missouri												.35																				0.35
Epping	Missouri													.10	.04																		0.14
Fessenden ‖ ‖	James			.06	T.								.18	.12	T.																		0.36
Forman	Sheyenne												.50	.09																			0.59
Fullerton	James												.34	.04					T.														0.38
Garrison	Missouri												T.	T.																			T.
Goodall	Missouri												.25																				0.25
Grafton ‖ ‖	Red				.35								.02	.08																			0.45
Granville	Mouse																																
Hannah	Pembina												.30		.20																		0.50
Hansboro	Red				.20								.30																				0.50
Hettinger	Grand																																
Hillsboro	Red				.13								.30	T.																	.05		0.48
Howard	Missouri		T.	T.								T.	T.	.20	.20			T.															0.40
Jamestown ‖ ‖	James											*	.60																				0.60
Lakota	Sheyenne			.27									.35	T.	.08	T.	T.																0.70
Lamoine	Missouri			T.									.60	T.																			0.60
Langdon ‖ ‖	Pembina			.10									.20		.40																		0.70
Larimore ‖ ‖	Red			.17									.14																				0.31
Lisbon ‖ ‖	Sheyenne			T.					T.		T.										T.												T.
McHenry	James			T.								.20	.30																				0.50
McKinney	Mouse												*	.20	T.																		0.20
McLeod	Sheyenne												.15																				0.15
Maddock	Sheyenne																																
Mandan	Missouri												.31																				0.31
Manfred	Sheyenne			.05								T.	.10	T.	.05																		0.20
Manning	Knife												.30																				0.30
Marmarth	Lit. Missouri												.01																				0.01
Marstonmoor	James			.14								T.	.30	T.	T.			T.	T.														0.44
Mayville	Red				.15																												0.15
Melville	James												.40																				0.40
Minor	Red			T.									.50	T.																	T.		0.50
Minot ‖ ‖	Mouse												.24		.16																		0.40
Minto	Red			.25									.25		.14																		0.64
Mott	Cannon Ball																	T.	T.														T.
Napoleon ‖ ‖	Missouri												.10																				0.10
New England	Cannon Ball												.44	T.				T.															0.44
New Rockford	James																																
New Salem	Heart												.10					T.															0.10
Orange	Cannon Ball																																0.00
Oriska	Sheyenne												.25	T.																			0.25
Park River	Red			.21									.29	T.	.19																		0.69
Pembina ‖ ‖	Red							.30					.10	.04																			0.44
Power	Sheyenne			T.								.34																			T.		0.34
Powers Lake	Missouri			.04									.20	T.																			0.24
Ranger	Lit. Missouri			T.									.10	T.		T.		.02			T.										.02		0.14
Steele	Missouri																																
Towner	Mouse											.05	.05	.10																			0.20
Turtle Lake	Missouri												.05																				0.05
University	Red			.20									.22		.04	T.	T.														.02		0.48
Walhalla	Pembina												.20		.40																		0.60
Washburn	Missouri																																
Westhope	Mouse												.20																				0.20
Williston ***	Missouri			.03								.02	.14	.05		T.		T.	T.														0.24
Willow City	Mouse		.01	.12								.10	.20		.40																		0.83
Zap	Knife												.52																				0.52
Moorhead, Minn ***	Red			.04									.32	T.																	T.		0.36

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum																																
	Minimum																																
Aplin	Maximum																																
	Minimum																																
Ashley	Maximum	66	65	59	52	55	58	46	51	64	53	39	38	33	45	25	22	21	18	50	41	39	44	51	62	51	60	51	60	54	41	....	47.1
	Minimum	37	43	40	30	26	29	25	14	25	26	23	37	27	25	7	- 5	2	-13	12	25	19	16	24	25	22	28	32	28	27	22	....	22.6
Beach	Maximum	64	63	56	58	64	52	42	56	62	51	53	41	33	35	15	19	30	28	48	48	45	57	56	54	65	50	63	59	50	43	....	48.7
	Minimum	27	43	38	21	26	33	22	17	30	23	33	20	22	12	2	2	1	5	0	26	15	17	16	23	32	31	19	27	25	15	....	21.1
Berthold Agency	Maximum	67	64	59	56	53	55	39	56	64	54	43	40	35	33	19	23	29	27	31	51	45	46	51	50	67	53	59	52	51	38	....	47.0
	Minimum	30	40	43	32	28	27	22	16	24	22	23	31	23	16	6	7	- 5	1	-10	22	19	24	18	19	33	31	11	22	14	8	....	19.9
Bismarck	Maximum	67	65	61	55	56	58	38	56	64	54	44	35	32	38	16	22	24	24	24	48	44	44	49	54	66	51	55	60	51	39	....	46.5
	Minimum	37	44	42	34	30	32	22	21	28	28	26	30	26	13	9	7	- 3	- 5	- 9	23	26	28	18	25	33	20	16	32	27	19	....	22.6
Bottineau §§	Maximum	60	60	54	48	45	53	38	49	58	58	29	29	25	29	16	10	11	6	30	36	31	26	37	39	49	37	39	45	40	31	....	37.3
	Minimum	25	27	33	28	28	29	26	16	24	23	23	24	9	16	- 4	- 7	-24	-23	-20	-15	16	12	18	18	16	31	18	19	19	22	....	14.2
Bowbells §§	Maximum																																
	Minimum																																
Carson	Maximum	68	64	57	56	58	56	45	57	64	54	47	16	34	40	21	25	25	24	28	52	48	45	53	54	69	50	55	62	52	44	....	48.4
	Minimum	28	38	43	26	25	24	21	16	22	21	22	30	30	18	6	5	- 4	8	-12	26	20	24	10	16	30	24	12	26	18	8	....	19.4
Crosby	Maximum																																
	Minimum																																
Devils Lake	Maximum	57	63	51	45	44	55	36	49	61	49	30	29	29	35	16	15	14	14	22	37	31	28	38	43	51	47	42	50	47	30	....	38.6
	Minimum	32	42	38	32	29	29	22	24	26	24	22	26	17	15	1	- 7	-13	-10	-14	22	20	7	20	25	38	20	19	27	28	20	....	19.4
Dickinson	Maximum	66	62	57	55	63	52	40	55	62	52	48	41	33	37	19	24	27	26	35	49	44	50	52	53	66	51	60	58	50	42	....	47.6
	Minimum	32	37	38	26	24	28	28	19	29	21	33	31	28	16	4	5	- 1	10	- 8	26	18	17	22	24	33	26	16	23	21	10	....	21.2
Donnybrook	Maximum																																
	Minimum																																
Dunseith	Maximum	57	60	50	45	43	52	44	47	57	47	29	30	30	——	28	12	4	11	13	40	34	26	36	35	42	45	38	43	44	34	....	37.1
	Minimum	28	39	36	29	32	29	13	14	20	23	23	23	9	——	0	- 7	-23	- 8	-18	13	21	10	15	15	20	19	11	25	22	18	....	15.6
Edgeley	Maximum	66	67	65	54	55	60	51	52	65	56	41	36	33	40	31	20	19	27	14	45	39	35	42	54	64	58	45	50	50	42	....	45.9
	Minimum	40	35	35	32	24	23	27	15	26	29	23	28	26	25	7	7	- 9	4	-12	11	26	12	14	29	38	37	20	26	30	23	....	21.7
Fessenden §§	Maximum	64	64	56	48	41	57	38	51	54	63	31	31	30	36	22	19	21	8	3	44	36	33	40	49	58	43	50	54	47	29	....	40.7
	Minimum	30	41	40	31	22	29	29	15	19	25	20	25	18	22	2	2	-13	-12	-16	-11	24	15	16	19	32	37	18	21	29	16	....	18.2
Forman	Maximum	59	59	59	52	44	47	47	40	52	52	42	39	32	34	34	16	15	13	12	36	35	31	35	41	52	51	44	47	46	41	....	40.2
	Minimum	32	32	38	31	25	29	32	12	20	26	20	29	28	28	10	8	- 6	2	-10	10	26	10	15	19	32	28	39	36	41	28	....	22.3
Fullerton	Maximum	65	66	65	54	54	60	43	55	65	55	41	36	32	40	35	22	19	21	14	47	38	37	40	54	62	51	43	54	50	38	....	45.2
	Minimum	33	41	37	31	26	28	18	22	25	28	25	28	28	27	9	7	- 7	3	-12	12	26	13	13	26	33	23	15	20	29	25	....	21.4
Garrison	Maximum	64	63	59	53	52	58	40	55	62	53	40	33	31	33	15	21	23	20	23	50	43	40	40	48	65	53	53	52	51	42	....	44.7
	Minimum	31	39	36	31	29	33	25	18	28	25	23	28	20	13	3	4	-10	- 5	-14	20	21	22	21	23	35	28	10	22	18	11	....	19.6
Grafton §§	Maximum	46	65	48	47	38	51	45	50	59	53	31	31	——	33	17	15	14	8	24	40	32	25	34	42	50	45	33	48	47	27	....	37.8
	Minimum	38	39	36	34	28	29	31	16	20	29	19	20	21	——	10	- 1	-17	-13	-13	-10	21	1	8	20	25	37	8	15	29	24	....	17.4
Granville	Maximum																																
	Minimum																																
Hannah	Maximum	51	——	——	——	——	——	——	——	49	31	29	30	29	22	12	10	11	7	33	30	27	32	33	42	39	33	41	43	32	....	30.3
	Minimum	28	——	——	——	——	——	——	——	18	10	9	12	9	0	- 9	-25	-15	-25	- 1	15	5	19	13	29	20	11	19	19	18	....	8.1
Hettinger	Maximum																																
	Minimum																																
Hansboro	Maximum	74	71	50	50	45	53	44	48	63	54	38	32	30	——	——	25	25	18	30	42	37	28	43	44	42	47	40	43	51	36	....	43.0
	Minimum	26	40	34	29	28	25	26	15	19	19	12	20	10	——	——	1	-20	-10	-17	9	18	- 2	18	28	30	22	12	24	23	20	....	16.4
Howard	Maximum	50	47	42	44	38	42	35	40	18	36	52	32	22	22	20	15	21	20	37	43	40	42	47	44	62	50	46	58	47	36	....	39.3
	Minimum	26	31	36	23	24	32	22	22	24	19	31	19	15	5	- 1	- 6	-11	- 6	-11	27	17	25	23	24	37	15	16	22	22	14	....	18.0
Jamestown §§	Maximum	64	70	61	50	50	50	40	52	60	55	35	48	40	36	17	19	22	16	34	40	37	30	38	46	53	62	44	53	51	34	....	43.6
	Minimum	34	34	40	33	29	30	30	20	20	25	26	20	28	17	5	4	9	16	-10	-10	26	16	16	16	25	38	24	23	29	25	....	21.3
Lakota	Maximum	55	64	52	40	43	54	41	50	61	50	30	27	26	36	20	15	11	11	11	36	33	26	33	43	46	42	37	46	46	37	....	37.4
	Minimum	27	39	37	29	27	29	26	15	15	25	20	20	18	2	2	- 5	-16	- 8	-15	10	11	2	20	21	33	26	14	27	29	19	....	16.6
Lamoine	Maximum	63	64	57	51	52	56	44	50	62	52	36	32	31	35	26	18	17	22	15	42	42	35	41	42	54	44	47	51	48	42	....	42.4
	Minimum	32	41	41	26	25	27	15	15	22	26	22	26	18	25	2	1	-19	0	-20	13	19	18	16	24	33	31	16	30	26	19	....	19.0
Langdon	Maximum	44	62	46	41	44	49	36	44	54	49	29	29	24	31	10	11	10	2	25	36	29	26	34	36	44	40	35	42	41	26	....	34.3
	Minimum	32	40	32	30	27	27	30	16	29	23	16	20	19	18	4	- 4	-22	-23	-20	5	17	0	5	5	30	32	9	17	26	21	....	15.4
Larimore §§	Maximum	52	64	50	46	43	52	40	53	61	52	29	29	31	33	23	17	14	13	26	38	32	26	36	43	48	47	38	48	47	24	....	38.5
	Minimum	33	39	39	33	28	29	30	17	24	29	21	24	20	23	6	- 3	13	0	- 9	7	22	1	17	21	32	37	11	24	24	24	....	20.5
Lisbon §§	Maximum	45	50	50	46	48	50	51	56	54	49	47	51	49	47	44	38	36	39	40	38	42	42	40	33	38	34	34	32	36	31	....	43.0
	Minimum	33	30	31	32	34	30	34	34	36	32	30	29	32	32	26	24	20	10	10	15	12	12	10	10	13	13	10	15	12	19	....	22.7
McHenry	Maximum	58	64	58	51	45	53	40	49	42	50	32	29	33	34	20	16	15	10	12	35	36	25	37	45	42	40	46	45	48	32	....	38.1
	Minimum	28	41	38	24	28	28	20	19	17	25	22	26	22	21	4	- 1	-12	- 3	-15	12	22	10	12	22	26	20	24	26	28	22	....	18.5
McKinney	Maximum	66	67	66	65	55	62	46	54	68	40	35	33	32	30	25	20	20	25	27	45	40	45	44	66	40	51	40	45	40	30	....	44.7
	Minimum	40	40	40	30	30	20	9	9	29	0	16	24	16	16	5	0	-22	- 2	-20	5	22	20	20	34	30	10	16	20	20	5	....	16.0
Manfred	Maximum	60	64	62	40	45	56	44	50	53	50	40	31	40	20	18	18	20	15	44	38	35	43	48	56	38	48	52	45	36	....	41.6
	Minimum	28	40	40	30	29	30	30	18	25	26	20	27	19	20	2	3	-13	0	-15	15	25	18	21	25	33	25	20	30	28	16	....	20.5
Marmarth	Maximum	66	62	57	59	65	52	42	52	62	51	59	45	33	31	19	25	32	31	51	52	45	56	53	57	67	53	60	50	49	37	....	49.1
	Minimum	28	32	34	26	29	32	20	18	27	26	26	24	20	12	5	- 1	6	16	6	36	19	29	29	19	28	31	23	27	24	14	....	22.2
Minot §§	Maximum	67	69	64	55	52	50	48	55	72	56	43	35	19	35	28	21	23	20	37	45	42	42	49	46	65	55	52	55	49	40	....	47.4
	Minimum	32	35	44	34	28	31	28	16	24	30	23	27	16	24	1	2	16	15	17	3	26	16	16	28	30	36	12	22	19	10	....	22.0
Mott	Maximum	65	57	53	56	61	56	49	47	50	53	60	48	37	28	18	22	20	30	35	47	52	61	58	63	62	58	63	67	63	61	....	50.0
	Minimum	33	25	28	24	20	23	21	18	20	24	27	16	11	7	- 3	5	- 2	- 4	-12	5	11	19	22	25	18	4	11	17	12	20	....	14.8
Napoleon §§	Maximum	70	72	63	55	56	58	40	53	65	55	40	35	31	39	16	21	23	13	30	49	50	42	42	51	65	30	55	60	55	40	....	45.8
	Minimum	32	38	40	29	20	27	25	13	22	22	20	28	25	25	4	0	- 8	- 1	-15	- 3	20	19	18	17	25	36	9	31	30	17	....	18.9
New England	Maximum	62	60	55	55	61	60	56	——	60	51	50	45	35	30	20	25	30	27	22	48	44	——	50	61	63	65	45	59	59	35	....	47.4
	Minimum	45	50	50	19	24	31	25	——	49	21	31	33	28	26	10	12	- 1	13	- 7	15	16	——	20	31	30	36	20	24	20	6	....	24.2
New Rockford	Maximum																																
	Minimum																																
New Salem	Maximum	66	65	61	55	56	57	44	56	65	55	45	10	33	28	20	24	24	20	14	51	46	52	76	48	42	76	60	54	58	19	....	48.0
	Minimum	29	42	36	27	25	26	20	20	32	24	28	28	25	18	- 5	4	- 6	- 4	-12	15	21	25	37	30	18	31	26	15	28	24	....	20.8
Orange	Maximum	59	67	59	59	62	56	55	55	65	55	50	48	33	44	20	26	26	28	30	50	45	48	46	54	55	68	55	61	52	45	....	49.2
	Minimum	24	27	31	21	26	19	19	20	22	21	29	31	28	11	5	4	1	- 5	-11	22	20	18	22	10	19	31	19	25	28	11	....	18.3
Oriska	Maximum	77	67	62	50	45	53	51	48	66	54	39	30	30	36	23	19	14	17	12	39	37	——	——	45	54	54	50	59	52	44	....	43.8
	Minimum	35	40	40	35	25	26	18	17	24	29	20	25	25	21	7	3	-15	- 3	-12	9	——	——	6	25	37	31	18	28	39	24	....	20.6
Park River	Maximum	59	65	58	45	40	50	13	46	60	51	42	29	30	33	20	12	11	13	12	38	35	23	36	40	47	46	34	47	47	36	....	38.3
	Minimum	35	36	39	34	30	29	24	20	26	30	20	24	18	20	8	- 1	-16	- 4	-13	-11	17	0	12	26	35	24	10	23	26	22	....	18.8
Pembina §§	Maximum	64	60	56	58	52	50	40	32	34	38	42	46	42	40	30	20	8	5	10	22	36	42	38	32	22	28	36	42	41	38	....	36.8
	Minimum	32	30	27	24	26	22	20	15	10	12	18	22	24	20	18	12	- 2	-12	-18	-10	5	12	16	14	12	8	12	20	24	22	....	14.5
Power	Maximum	69	59	62	58	55	52	47	49	63	65	45	32	34	42	20	22	22	8	14	42	30	29	35	54	60	50	46	60	55	30	....	43.6
	Minimum	35	40	39	33	26	29	29	32	26	26	25	28	26	19	16	6	- 8	3	- 8	12	8	6	16	24	32	32	15	30	28	26	....	21.7
Towner	Maximum	63	64	55	49	49	56	43	50	61	50	40	31	32	33	17	13	17	17	15	40	37	34	42	40	57	48	43	47	45	39	....	40.9
	Minimum	39	40	42	31	31	30	27	17	25	29	20	29	13	16	- 1	0	-19	- 5	-21	13	22	14	21	20	35	31	20	26	20	27	....	19.7
Turtle Lake	Maximum	65	64	60	53	56	58	47	53	63	60	55	37	35	36	26	21	23	25	20	49	43	41	48	47	64	54	51	52	52	43	....	46.6
	Minimum	18	22	10	13	13	13	11	6	12	13	5	13	5	9	-12	-12	-17	-15	-27	3	8	3	4	6	20	10	- 3	9	5	5	....	4.7
University	Maximum	45	63	50	45	39	51	39	44	61	53	32	31	28	33	16	17	11	13	16	39	33	25	33	45	54	46	31	52	48	31	....	37.4
	Minimum	37	42	39	31	30	31	26	18	25	28	20	26	23	19	8	0	-11	- 4	- 5	11	14	4	17	22	28	14	9	27	29	23	....	19.4
Wahpeton §§	Maximum	57	66	62	54	51	63	42	48	72	55	41	34	35	44	28	25	30	18	22	49	44	36	44	50	56	55	43	60	52	39	....	45.8
	Minimum	35	39	40	30	26	32	32	15	22	27	23	25	26	28	11	5	- 6	7	- 6	10	27	8	22	23	29	35	11	14	33	23	....	21.5
Washburn	Maximum																																
	Minimum																																
Westhope	Maximum	62	63	55	48	51	53	39	51	58	49	37	35	31	26	19	4	12	11	16	38	36	29	36	39	52	57	46	46	45	40	....	39.5
	Minimum	26	34	34	31	33	31	27	12	18	24	17	25	5	6	- 4	-30	- 4	- 4	-26	12	18	10	16	12	35	37	17	25	20	13	....	15.7
Williston	Maximum	60	62	56	52	53	48	39	55	60	50	46	36	32	32	12	19	25	22	41	45	43	45	50	48	62	50	54	54	50	38	....	44.6
	Minimum	32	44	32	28	35	33	27	24	31	24	32	24	23	7	2	1	- 7	- 7	- 7	30	22	27	25	26	36	19	17	25	20	12	....	21.2
Willow City	Maximum	58	62	60	47	48	44	40	28	58	48	37	29	24	30	6	5	7	4	13	35	23	25	34	35	50	45	36	39	36	30	....	34.3
	Minimum	33	32	28	22	30	- 4	-10	3	-10	- 6	17	23	- 5	10	- 8	-28	-27	-17	-17	-12	-12	2	11	14	23	26	17	20	16	10	....	7.2

§§ Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

DECEMBER, 1914

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 30, 1915.

Departure of the Mean Temperature from the Normal, December, 1914..



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., DECEMBER, 1914. No. 12.

GENERAL SUMMARY.

The weather for the month was characterized by continuous low temperatures. While there have been two colder Decembers in the climatological history of the State, none was productive of such continuous cold. The mean temperature was more than seven degrees below the normal. While no severe storms occurred, there was normal precipitation, all of which occurred in the form of snow. Nearly normal sunshine and wind movement prevailed.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.26 inches. The highest was 30.77 inches at Bismarck, Burleigh County, on the 25th; the lowest was 29.60 inches at Devils Lake, Ramsey County, on the 31st.

TEMPERATURE.

The mean temperature for the State was 5.4°, or 7.5° below the normal, and 17.3° lower than the mean for December, 1913. The highest monthly mean reported was 12.1° at Bowbells, Burke County; the lowest was −3.6° at Pembina, Pembina County. The highest temperature reported was 57° at Mott, Hettinger County, on the 3d; the lowest was −42° at McKinney, Renville County, on the 25th. The greatest monthly range was 93° at Mott, Hettinger County; the least was 58° at Walhalla, Pembina County. The greatest daily range was 59° at Lisbon, Ransom County, on the 26th. The distribution of temperature geographically was fairly uniform, but the distribution throughout the month was uneven. The temperature during the first week was above the normal, but during the last three weeks was considerably below the normal. The mean for the month is the third coldest on record since the climatological service was established in 1892. Usually the highest temperature occurred on the 3d, and the lowest on the 25th.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of five recording stations, was 84 per cent.

PRECIPITATION.

The average precipitation for the State was 0.50 inch, or 0.01 inch below the normal, and 0.28 inch more than the average for December, 1913. The greatest monthly amount reported was 2.00 inches at Langdon, Cavalier County; the least was 0.10 inch at Hansboro, Towner County, Napoleon, Logan County, and Towner, McHenry County. The greatest amount recorded in any twenty-four consecutive hours was 1.60 inches at Walhalla, Pembina County, on the 1st. The average number of days with 0.01 inch or more of precipitation was four. All of the precipitation occurred in the form of snow, the average fall for the State being 5.7 inches. There were but two stormy periods, the 7th and 8th, and the 20th to the 27th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.0 miles. The greatest wind movement was 7,308 miles at Devils Lake, an average of 9.8 miles per hour; the least was 3,994 miles at Williston, an average of 5.4 miles per hour. The maximum velocity for a period of five minutes was at the rate of 48 miles per hour from the northwest at Williston on the 31st, only the reports of stations equipped with anemometers being used.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 12, partly cloudy 9, and cloudy 10.

ERRATA, NOVEMBER, 1914.

Page 84: Dunseith, total precipitation should be 0.80 inch, and number of days with .01 inch or more precipitation should be 3; Marstonmoor, number of days with .01 inch or more precipitation should be 2.

Page 85: Dunseith, total precipitation should be 0.80 inch.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	7.1	−5.8	60	−36	0.57	+0.06
1893	4.7	−8.2	55	−36	0.85	+0.34
1894	19.1	+6.2	70	−32	0.29	−0.22
1895	13.8	+0.9	62	−32	0.29	−0.22
1896	16.4	+3.5	53	−35	0.37	−0.14
1897	10.8	−2.1	69	−35	0.22	−0.29
1898	12.1	−0.8	55	−38	0.24	−0.27
1899	12.8	−0.1	60	−26	0.32	−0.19
1900	17.3	+4.4	58	−29	0.31	−0.20
1901	12.4	−0.5	61	−43	0.74	+0.23
1902	7.8	−5.1	49	−35	0.58	+0.07
1903	11.6	−1.3	57	−33	0.77	+0.26
1904	14.2	+1.3	55	−43	0.02	−0.49
1905	15.3	+2.4	55	−34	0.16	−0.35
1906	8.4	−4.5	48	−40	1.07	+0.56
1907	20.1	+7.2	68	−26	0.30	−0.21
1908	14.4	+1.5	62	−37	0.38	−0.13
1909	5.2	−7.7	54	−42	1.27	+0.76
1910	12.9	0.0	56	−34	0.42	−0.09
1911	14.9	+2.0	61	−33	0.39	−0.12
1912	18.9	+6.0	72	−28	0.43	−0.08
1913	22.7	+9.8	61	−21	0.07	−0.44
1914	5.4	−7.5	57	−42	0.50	−0.01

Climatological Data for December, 1914.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Carley
Aplin	Oliver	.....	7	0.0[l]	.....	39[l]	31	−33[k]	25	46[l]	1.01	.....	0.71	9.0	6	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	17	7.4	−6.4	50	3	−30	25	38	1.09	+0.68	0.30	10.0	5	13	10	8	nw.	R. C. Miles
Beach	Golden Valley	2,576	8	9.8	.....	48	2	−25	16	36	0.24	.....	0.17	2.7	4	13	9	9	nw.	D. J. Steiner
Berthold Agency	McLean	2,082	20	7.2	−9.8	49	2	−36	16	54	0.24	−0.15	0.16	3.0	2	11	14	6	nw.	C. L. Hall
Bismarck	Burleigh	1,674	40	7.4	−7.6	44	2	−30	25	54	0.34	−0.28	0.09	4.7	7	7	11	13	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	22	0.4	−7.1	36	3	−34	25	36	0.12	−0.43	0.02	.....	10	7	7	17	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	2	12.1	.....	41	4	−38	25	44	0.30	.....	0.15	.....	3	25	2	4	.....	G. H. Phelps
Bowman	Bowman	.....	.....	11.4	.....	46	3	−26	16	31	0.55	.....	0.20	5.5	4	14	0	17	.....	L. S. Diehl
Buford	Williams	1,944	35	8.0	−6.0	40	3	−27	25	42	0.90	+0.32	0.20	9.0	6	8	8	15	nw.	C. H. McCune
Cando	Towner	1,488	13	1.9	−6.0	31[a]	31	−33[a]	25	39[a]	0.25	−0.13	0.13	.....	4	.....	.....	.....	nw.	E. T. Judd
Carson	Morton	.....	2	8.0	.....	45	3	−32	*16	48	0.40	.....	0.20	4.0	3	16	2	13	w.	D. L. Basquin
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.20	6.5	6	9	9	13	nw.	H. P. Rice
Crosby	Divide	1,954	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Crouch
Devils Lake	Ramsey	1,482	10	3.6	−4.4	32	31	−27	25	35	0.36	−0.03	0.22	4.8	6	9	5	17	w.	U. S. W. B.
Dickinson	Stark	2,543	22	8.6	−9.8	47	3	−29	16	39	0.29	−0.16	0.13	2.9	5	5	15	11	nw.	L. R. Waldron
Donnybrook	Ward	1,760	15	1.8[e]	−12.5	34[e]	31	−35[e]	25	31[e]	0.13	−0.41	0.05	1.3	3	.....	.....	.....	nw.	Geo. Mitchell
Dunseith	Rolette	1,682	18	2.6	−6.6	41	3	−28	*25	38	0.22	−0.17	0.10	2.2	3	15	2	14	nw.	Geo. Mitchell
Eckman	Bottineau	.....	9	3.1	.....	41	* 2	−38	25	47	0.40	.....	0.20	4.0	2	10	11	10	nw.	J. Nussbaum
Edgeley	LaMonre	1,468	13	7.4	−7.5	44	4	−32	25	41	0.13	−0.32	0.10	2.4	4	6	9	16	nw.	O. A. Thompson
Energy	McLean	.....	2	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.16	.....	4	12	9	10	nw.	N. W. Solenberger
Epping	Williams	2,224	6	.....	.....	.....	.....	.....	.....	.....	0.17	.....	0.13	3.0	2	16	10	5	w.	M. E. Uggen
Fessenden	Wells	1,610	2	5.5	.....	47	5	−38	25	41	0.24	.....	0.11	2.8	4	20	7	4	nw.	G. T. Seymour
Forman	Sargent	1,249	22	5.2[d]	−9.8	42[d]	* 3	−33[d]	25	47[d]	0.70	+0.21	0.30	7.0	4	.....	.....	.....	nw.	A. Maltby
Fullerton	Dickey	1,439	16	7.4	−6.8	46	* 3	−30	25	37	0.67	−0.19	0.30	6.7	7	11	14	6	nw.	F. O. Alin
Garrison	McLean	1,901	19	5.6	−9.2	48	3	−33	25	39	0.42	−0.07	0.20	4.2	5	11	8	12	nw.	G. L. Robinson
Goodall	McKenzie	.....	.....	7.7	.....	41	3	−28	25	35	0.65	.....	0.20	5.3	5	14	9	8	nw.	C. H. Layman
Grafton	Walsh	827	22	0.1	−8.1	30	5	−32	25	43	0.48	−0.02	0.31	7.5	5	17	9	5	se.	A. R. T. Wylie
Granville	McHenry	1,504	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson
Hannah	Cavalier	1,568	9	0.4	.....	26	3	−33	24	35	0.50	.....	0.40	5.0	2	14	5	12	nw.	J. Moffatt
Hansboro	Towner	1,597	6	4.5	.....	34	6	−32	24	42	0.10	.....	0.10	1.0	1	15	7	9	nw.	C. E. Blackerby
Hettinger	Adams	2,253	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	8	6.1	.....	40	4	−26	25	32	0.65	.....	0.30	6.5	5	15	9	7	nw.	F. E. Mayall
Howard	Williams	2,275	5	5.0	.....	39	2	−30	25	38	0.50	.....	0.20	7.0	3	8	6	17	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	22	5.9	−8.8	40	* 3	−24	25	55	0.96	+0.22	0.21	9.6	7	12	10	9	nw.	T. Pettigrew
Lakota	Nelson	1,579	13	1.0	−10.6	28[b]	* 8	−35	25	38[b]	0.87	−0.06	0.60	20.5	6	.....	.....	.....	nw.	C. R. Pettes
Lamoine	Kidder	.....	6	4.8	.....	43	* 3	−31	25	40	0.20	.....	0.20	2.0	1	19	1	11	nw.	E. V. Virgin
Langdon	Cavalier	1,615	18	0.8	.....	31	4	−34	24	38	2.00	.....	1.00	20.0	6	18	3	10	sw.	R. T. Burke
Larimore	Grand Forks	1,134	19	4.1	−7.4	33	3	−29	24	39	0.44	+0.05	0.20	5.0	3	16	3	12	.....	G. G. Graham
Lisbon	Ransom	1,091	10	5.4	−9.8	44[a]	4	−36	25	59[a]	0.51	−0.12	0.20	5.1	6	12	10	9	nw.	W. S. Adams
McHenry	Foster	1,509	4	4.2	.....	33	31	−32	25	39	0.61	.....	0.60	7.0	2	18	8	5	nw.	P. E. Truden
McKinney	Renville	1,640	20	4.9	−6.4	35	* 2	−42	25	42	0.55	+0.12	0.50	5.5	2	1	23	7	nw.	N. P. Swenson
McLeod	Ransom	1,075	2	11.2	.....	51	4	−31	25	36	0.42	.....	0.22	4.2	3	11	13	7	nw.	E. W. Griggs
Maddock	Benson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. M. Jackson
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.26	.....	5	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	11	5.4	−7.0	44	5	−35	25	37	0.28	−0.58	0.16	5.5	5	12	13	6	nw.	P. B. Anderson
Manning	Dunn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings	.....	5	11.8	.....	51	3	−28	16	36	0.21	.....	0.09	6.2	4	8	12	11	nw.	S. P. Graue
Marstonmoor	Stutsman	.....	5	3.4	.....	47	5	−41[a]	25	52[a]	0.30	.....	0.25	3.0	2	13	12	6	nw.	H. H. McCumber
Mayville	Traill	975	18	4.9	−9.0	39	4	−28	25	29	0.66	+0.19	0.25	.....	7	17	2	12	n.	W. C. Gould
Melville	Foster	1,590	16	6.8	−5.5	42[b]	7	−34[b]	25	42[b]	0.50	+0.15	0.20	5.0	3	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	2	.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.09	5.5	3	14	12	5	n.	Ilj. Edman
Minot	Ward	1,557	18	6.0	−7.7	42	2	−41	25	47	0.26	−0.11	0.10	2.6	4	9	8	14	nw.	B. L. Faris
Minto	Walsh	820	21	1.8	−9.1	31[a]	5	−32[a]	24	34[a]	0.43	−0.03	0.29	6.0	3	15	11	5	s.	S. S. Marsh
Mott	Hettinger	2,424	7	9.0	.....	57	3	−36	16	49	0.74	.....	0.26	7.0	9	8	10	13	nw.	O. H. Opland
Napoleon	Logan	1,955	22	5.6	−7.4	47	* 2	−35	25	52	0.10	−0.39	0.05	2.0	2	9	7	15	nw.	C. J. Hoof
New England	Hettinger	2,400	20	7.0[d]	−11.5	37[d]	6	−35[d]	16	41[d]	1.00	+0.58	0.40	10.0	4	.....	.....	.....	nw.	J. M. Connolly
New Rockford	Eddy	1,531	3	5.4	.....	32	5	−33	24	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	9	7.1	.....	43	* 2	−30	16	41	0.62	.....	0.20	6.2	6	10	12	9	nw.	J. Christianson
Orange	Adams	2,586	5	9.6	.....	38	31	−30	16	34	1.20	.....	0.60	12.0	3	14	11	6	nw.	J. E. Goforth
Oriska	Barnes	1,270	9	5.2	.....	45	5	−32	25	48	0.13	.....	0.04	1.2	4	10	11	10	s.	J. J. Taylor
Park River	Walsh	998	10	3.6	−9.5	31	3	−28	24	30	0.32	−0.14	0.28	3.2	3	4	20	7	nw.	G. M. Hargrave
Pembina	Pembina	789	40	3.6	−10.2	34	1	−32	21	27	0.65	−0.20	0.40	6.5	3	13	11	7	se.	C. W. Shumaker
Power	Richland	1,020	22	7.7	−4.8	42[a]	4	−35	25	33[a]	0.70	+0.19	0.20	7.0	7	9	9	13	sw.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	0.10	3.0	5	1	18	12	nw.	C. Frank
Ranger	Billings	2,408	2	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.10	6.3	7	9	11	11	nw.	C. M. Hubbard
Steele	Kidder	1,857	17	10.4	−4.0	50	3	−36	25	32	0.16	−0.22	0.08	2.3	4	11	15	5	s.	H. S. Wood
Towner	McHenry	1,482	12	4.6	−7.8	42	2	−35	25	40	0.10	−0.19	0.05	1.0	2	12	6	13	nw.	B. Bagley
Turtle Lake	McLean	1,899	2	3.8[f]	.....	45[f]	3	−37[f]	14	46[f]	0.22	.....	0.10	2.2	3	.....	.....	.....	.....	E. J. Jones
University	Grand Forks	830	22	3.3	−8.0	37	4	−28	*24	33	0.49	−0.01	0.20	4.9	10	14	10	7	nw.	U. S. W. B.
Wahpeton	Richland	962	20	9.6	−5.9	50	20	−35	25	43	0.73	+0.30	0.23	7.0	4	13	8	10	nw.	F. E. Smith
Walhalla	Pembina	966	7	1.0	.....	26	3	−32	23	34	1.60	.....	1.60	16.0	1	20	9	2	nw.	I. DeL. Lee
Washburn	McLean	1,734	16	8.7	−5.7	45[b]	3	−28[b]	25	45[b]	1.10	+0.84	0.75	11.0	2	.....	.....	.....	nw.	A. Wacker
Westhope	Bottineau	1,508	8	3.7	.....	37	2	−36	25	47	0.20	.....	0.10	2.0	2	17	7	7	nw.	C. M. Condit
Williston	Williams	1,875	35	6.7	−6.9	40	3	−30	25	38	0.33	−0.33	0.11	3.1	8	5	6	20	n.	U. S. W. B.
Willow City	Bottineau	1,471	22	0.8	−10.5	36	3	−35	20	43	1.05	+0.63	0.20	10.5	8	8	17	6	w.	M. A. Ostby
Zap	Mercer	.....	1	6.7	.....	44	* 2	−31	16	50	0.13	.....	0.04	3.6	5	13	11	7	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	33	7.6	−3.1	42	4	−27	25	32	0.34	−0.40	0.08	3.4	8	17	6	8	nw.	U. S. W. B.
Averages	.....	.....	.....	5.4	−7.5	57	11	−42	25	59	0.50	−0.01	1.60	5.7	4	12	9	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for December, 1914.

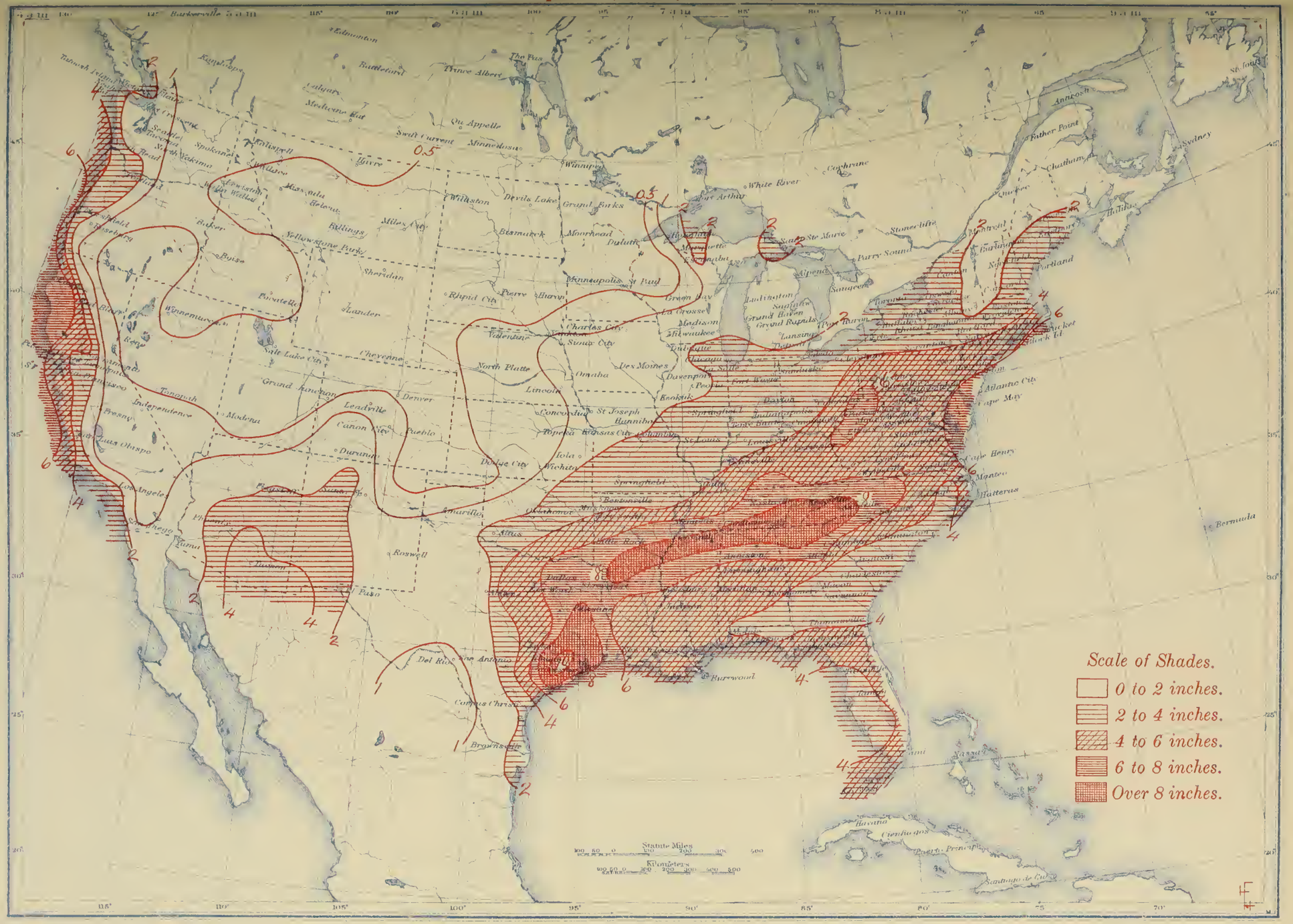
Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red																																
Aplin	Knife											.71	T.	T.	.05	.05			T.			T.	.05	T.	.05	.10		T.					1.01
Ashley	Missouri							.10	.20												.20			.20	.30								1.00
Beach	Lit. Missouri							.17	.01						T.				T.			.02		.04	T.								0.24
Berthold Agency	Missouri							.08							T.										T.		.16						0.24
Bismarck ***	Missouri						T.	.09	.02	T.	T.		T.		.04				T.	T.	T.	T.	.02	.06	.07		.04	T.			T.	T.	0.34
Bottineau ‖ ‖	Mouse								T.				T.	.01					.01		.01	.01	.01	T.	.02		.02	.01	.01			.01	0.12
Bowbells ‖ ‖	Mouse						.10	.05						.15																			0.30
Bowman	Grand							.20	.20	.10	.05											T.		T.		T.							0.55
Buford	Missouri							.20	.10				T.						T.				.10	.10	.20			.20					0.90
Cando	Sheyenne	.13																					.05				.02				.05		0.25
Carson	Heart						T.	.20	.10																.10								0.40
Colgate	Sheyenne	.25				.05															.20		T.	.05	.05				.05				0.65
Crosby	Mouse																																
Devils Lake ***	Sheyenne	.22					T.	T.					T.						T.		.01		.03	.04			.03	.03			T.	T.	0.36
Dickinson	Heart	T.					T.	.13	.07	T.			T.		.02	.02							T.	.05			T.						0.29
Donnybrook	Mouse							.03															T.	.05	.05			T.					0.13
Dunseith	Mouse																					10					.10	.02				T.	0.22
Eckman	Mouse							.20						T.					T.								.20	T.				T.	0.40
Edgeley	James								.10						.01						.01			.01	T.								0.13
Energy	Missouri							.16							T.							.10	T.	.07	T.	.05							0.38
Epping	Missouri														.04										.13								0.17
Fessenden ‖ ‖	James								.05					T.						T.	T.	T.	.11	.05	.03		T.	T.	T.					0.24
Forman	Sheyenne																						.10	.30	.05		.25						0.70
Fullerton	James	.09						.30	.15										T.		.03		.03			.03	.04						0.67
Garrison	Missouri							.05		.02			T.			T.							.05	.20	.10	T.						T.	0.42
Goodall	Missouri								.20						.10										.10		.15					.10	0.65
Grafton ‖ ‖	Red	.31						.01													.05	T.						.03			.08		0.48
Granville	Mouse																																
Hannah	Pembina	.40							T.											T.							.10	T.					0.50
Hansboro	Red																		.10														0.10
Hettinger	Grand																																
Hillsboro	Red							.10											T.		.30	.10		T.			.10	.05				T.	0.65
Howard	Missouri							.20					T.			.10			T.	.20				T.									0.50
Jamestown ‖ ‖	James	.10						.05					.20								.10		.20	.10			.21						0.96
Lakota	Sheyenne	.60																	T.		.08		.02				.05	.08	.04		T.		0.87
Lamoine	Missouri							T.							T.								T.	.20									0.20
Langdon ‖ ‖	Pembina	1.00											T.	.30				T.	*	.30		T.	.20				T.	.20					2.00
Larimore ‖ ‖	Red	.20						.05					T.					T.	T.	T.							.09		.10			T.	0.44
Lisbon ‖ ‖	Sheyenne			.02		T.		T.					T.								T.			.20	.20	T.	.02	.05	.02				0.51
McHenry	James	.60						T.	T.				T.								T.	T.	T.	T.			T.	T.				.01	0.61
Mckinney	Mouse							.05										T.										.50					0.55
McLeod	Sheyenne	.05																					.15	.22									0.42
Maddock	Sheyenne																																
Mandan	Missouri								.26	.04															.03	.03		.01					0.37
Manfred	Sheyenne							.02						T.									T.	T.	.10	.05	T.	.05	.06	T.				0.28
Manning	Knife																																
Marmarth	Lit. Missouri						T.	.08	.09	T.					T.				.01				.03	T.		T.	T.			T.	T.	T.	0.21
Marstonmoor	James							T.					T.		T.				T.	T.	T.	T.	.05	.25	T.		T.	T.			T.		0.30
Mayville	Red	.02	.02					.02													.25	.05					.20	.10				T.	0.66
Melville	James	T.						T.											T.		T.		.20	.20	T.		T.	.10					0.50
Milnor	Red	T.						T.													.01	T.	.09	.08	T.		T.	T.				T.	0.18
Minot ‖ ‖	Monsa							.06																.10	.05			.05					0.26
Minto	Red	.29											T.					T.									.09					.05	0.43
Mott	Cannon Ball						.05	.27	.16	.04		T.	T.			.02			T.			.02		.06	.10								0.74
Napoleon ‖ ‖	Missouri							.05																.05									0.10
New England	Cannon Ball		.40			T.	.20		.30	.10															T.								1.00
New Rockford	James																																
New Salem	Heart							.10	.10						.10				T.			T.	T.	.10	.20			.02				T.	0.62
Orange	Cannon Ball									.60						.20									40								1.20
Oriska	Sheyenne	.02							.03											T.	.04	T.	T.	T.			.04	T.	T.					0.13
Park River	Red	.28						T.	T.										T.	T.	.03	T.	T.	T.			.01	T.						0.32
Pembina ‖	Red		.40																													.20	0.65
Power	Sheyenne	.20																	T.		.10	.05	.20	.05		.05	.05						0.70
Powers Lake	Missouri							.06	T.					.05										.05	.10	.05	T.	T.	T.		T.		0.31
Ranger	Lit. Missouri						T.	.10	.06	T.			T.		.10				T.			T.	T.	T.	T.	T.	T.						0.26
Steele	Missouri	T.	T.					.05	T.						.08						T.	T.	T.	.03	T.								0.16
Towner	Mouse							T.																.05							.05		0.10
Turtle Lake	Missouri							.02																.10	.10								0.22
University	Red	.05						.03					.02						.01		.20	T.		.01			.11	.01		.01		.04	0.49
Wahpeton ‖ ‖	Red	T.						T.	T.				T.								.23			.10	.20		.20			T.		T.	0.73
Walhalla	Pembina	1.60																															1.60
Washburn	Missouri																						.75					.35					1.10
Westhope	Monse							.10																.10									0.20
Williston ***	Missouri	.02					T.	T.	.01	T.		T.	T.	T.	.01				.01	T.	T.	T.	.04	T.	.11		.09	.04			T.		0.33
Willow City	Mouse	.10						.10			T.	T.		T.				T.		.10	T.	.10	.20			.20	.20				.05		1.05
Zap	Knife							.04							.04								.01	.01	.03								0.13
Moorhead, Minn ***	Red	.06						.07					.01						T.		.08	T.	.01	.03			.06	.02				T.	0.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1914.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum																																
	Minimum																																
Aplin	Maximum	——	——	——	——	——	——	——	——	——	——	——	10	10	5	3	3	20	22	15	10	20	24	7	5	- 3	8	18	——	22	17	39	13.4
	Minimum	——	——	——	——	——	——	——	——	——	——	-14	0	-10	-25	-22	-25	-10	10	-18	- 4	- 5	-15	- 7	-10	-33	-15	-25	——	-16	-15	- 7	-13.3
Ashley	Maximum	35	41	50	47	45	36	31	29	19	11	7	6	8	4	0	- 1	9	20	10	18	20	23	7	- 1	- 4	10	16	22	12	35	15	18.7
	Minimum	20	4	20	19	20	17	27	19	3	- 8	-13	- 6	-13	-27	-15	-26	-13	1	2	0	- 9	- 3	- 7	-17	-30	-22	-21	-16	-18	- 3	- 3	- 3.8
Beach	Maximum	37	48	46	36	32	32	30	22	18	13	2	6	9	6	4	3	19	21	13	8	21	25	26	13	6	15	18	25	12	23	38	20.2
	Minimum	13	15	15	12	10	15	20	17	11	- 6	-16	- 1	-12	-18	-21	-25	-11	9	-11	- 3	- 5	2	10	6	-20	- 9	-12	- 5	1	- 1	2	- 0.6
Berthold Agency	Maximum	32	49	46	34	43	45	34	29	25	13	6	13	12	7	8	6	23	27	16	11	19	24	9	5	1	9	14	21	17	20	41	21.3
	Minimum	16	7	5	- 4	11	10	23	20	9	- 6	-17	0	- 4	-22	-23	-36	-24	3	- 1	- 9	-10	-11	- 3	- 6	-36	-12	-25	-13	-15	-24	-13	- 6.8
Bismarck	Maximum	33	44	42	33	44	39	30	24	14	7	6	12	12	5	0	3	18	22	14	10	21	24	6	- 2	- 7	9	20	22	2	8	40	17.9
	Minimum	10	10	15	14	30	25	24	14	- 6	- 8	- 4	3	-16	-18	-20	-26	-14	11	2	- 2	- 8	- 7	- 4	- 8	-30	-13	-18	-12	-14	-16	-14	- 3.2
Bottineau §§	Maximum	23	29	36	25	34	34	28	23	20	10	5	12	0	1	- 3	6	21	17	10	8	12	0	- 2	-10	- 2	4	6	14	2	14	28	8.1
	Minimum	18	17	14	12	11	20	22	18	1	- 3	- 9	- 8	-14	-16	-19	-25	-25	-15	- 3	- 3	-11	-18	-20	-24	-34	-30	-22	-15	-17	-21	- 5	- 7.2
Bowbells §§	Maximum	25	33	40	41	31	37	20	19	12	20	12	30	35	34	18	19	24	20	19	22	15	12	10	-20	-10	- 5	10	25	20	19	——	19.6
	Minimum	15	10	18	22	18	12	10	8	- 3	-10	5	-14	10	12	19	12	10	12	5	3	10	- 3	0	- 5	-38	-20	-15	- 3	4	10	14	4.6
	Maximum	40	42	45	34	42	37	34	36	20	8	5	10	10	8	0	4	18	22	15	8	22	26	16	7	0	12	22	25	16	23	38	20.5
Carson	Minimum	16	4	6	7	20	20	24	18	7	0	- 7	- 6	-10	-27	-18	-32	-16	12	-13	- 5	- 8	- 8	4	- 5	-32	-12	-26	-12	-15	-17	- 7	- 4.5
Crosby	Maximum																																
	Minimum																																
Devils Lake	Maximum	23	27	31	20	28	28	25	24	9	15	8	11	8	- 1	- 5	7	18	21	14	10	14	1	- 5	-11	- 4	4	12	20	- 2	14	32	12.8
	Minimum	17	16	5	6	12	8	18	2	- 6	-10	- 6	0	-16	-18	-20	-18	- 5	10	5	- 4	-12	-15	-18	-24	-27	-16	-16	-10	-15	-16	- 3	- 5.7
Dickinson	Maximum	35	28	47	31	40	34	34	23	18	7	- 1	8	8	7	7	4	18	22	13	8	25	24	14	9	1	12	17	24	18	23	39	19.6
	Minimum	23	7	10	5	13	10	19	18	6	- 4	-18	- 2	- 2	-22	-21	-29	-12	9	- 8	- 2	-10	- 3	9	- 1	-21	- 6	-22	- 6	-11	- 4	4	- 2.3
Donnybrook	Maximum	——	——	——	——	——	25	22	25	16	14	4	14	10	1	- 2	5	15	23	16	9	13	6	- 2	- 3	- 5	1	10	14	9	16	34	11.2
	Minimum	——	——	——	——	——	22	19	16	0	-11	-17	- 1	-11	-21	-22	-21	- 2	7	1	- 3	- 5	-18	-16	-14	-35	-16	-17	-10	-18	-15	10	- 7.6
Dunseith	Maximum	28	26	41	25	33	37	26	24	17	6	2	8	——	2	3	4	10	20	13	9	11	1	1	- 1	- 5	3	5	14	3	12	27	13.5
	Minimum	8	16	14	11	16	22	21	9	1	- 4	- 8	-11	——	-16	-17	-27	-19	1	- 6	- 7	-25	-20	-19	-25	-28	-28	-28	-20	-20	-25	-11	- 8.2
Edgeley	Maximum	37	37	43	44	37	35	32	30	22	10	8	7	11	3	- 1	3	16	20	16	18	22	22	2	- 3	- 2	11	19	21	19	12	34	18.9
	Minimum	23	12	20	23	15	17	27	21	1	-10	-15	- 4	-11	-21	-17	-24	-14	5	0	- 1	- 8	-15	- 9	-19	-32	-30	-19	-13	-10	-14	- 3	- 4.0
Fessenden §§	Maximum	26	43	43	26	47	40	30	22	14	19	14	11	1	4	- 2	8	21	16	16	12	16	6	1	-10	2	10	16	21	- 2	12	35	16.7
	Minimum	18	15	15	9	9	14	21	15	- 4	-10	-12	- 7	-16	-21	-20	-24	-20	- 5	- 6	0	- 6	-15	-20	-18	-38	-29	-22	-17	-17	-23	- 6	- 7.7
Forman	Maximum	30	30	42	42	——	——	——	——	32	10	15	10	13	9	2	1	14	24	18	24	24	16	9	5	- 7	14	14	29	19	9	28	17.6
	Minimum	25	10	26	31	——	——	——	1	- 8	- 5	- 3	-12	-23	-18	-25	-12	7	2	- 2	-12	-18	-15	-15	-33	-27	-21	-18	-10	-23	7	- 7.1
Fullerton	Maximum	34	39	46	46	42	35	32	27	21	10	8	9	11	2	- 1	2	11	20	15	20	21	22	2	0	- 7	11	17	17	16	10	24	18.1
	Minimum	24	11	18	23	13	19	27	20	3	- 9	-11	0	-12	-23	-16	-23	-17	3	- 1	3	- 5	-12	- 7	-16	-30	-26	-19	-14	- 6	-22	3	- 3.3
Garrison	Maximum	30	38	48	32	41	41	29	24	22	8	6	11	11	4	- 2	4	19	8	16	8	2	20	4	1	- 5	5	11	18	9	13	38	16.6
	Minimum	20	21	9	9	7	12	21	19	1	- 5	-17	0	- 8	-21	-20	-27	-16	- 9	0	- 8	-16	-17	- 8	-10	-33	-17	-22	- 6	-17	-22	10	- 5.5
Grafton §§	Maximum	22	24	28	20	30	23	25	24	3	11	9	14	-14	- 4	- 5	2	22	23	4	13	15	5	- 7	- 9	- 4	5	12	12	- 3	7	26	10.7
	Minimum	17	14	12	6	5	7	9	17	- 7	-15	-13	-14	-13	-25	-24	-26	-21	-11	5	- 7	-10	-27	-29	-31	-32	-24	-21	-20	-13	-19	-15	-10.5
Granville	Maximum																																
	Minimum																																
Hannah	Maximum	22	18	26	23	25	24	23	23	12	10	8	12	7	- 5	- 6	- 1	9	13	10	10	9	0	- 6	- 7	0	- 3	9	18	1	12	22	10.3
	Minimum	15	9	0	9	10	9	14	12	-13	-15	-20	- 5	-23	-29	-26	-25	-15	2	- 6	- 7	-12	-26	-28	-33	-31	-20	-24	-17	-25	-22	- 6	-11.2
Hettinger	Maximum																																
	Minimum																																
Hansboro	Maximum	22	22	33	21	27	34	25	23	14	27	24	12	10	9	2	2	14	22	18	10	13	8	- 5	0	12	7	14	26	6	9	27	15.7
	Minimum	16	16	8	11	16	18	18	11	- 4	- 9	- 8	- 4	-15	-22	-20	-20	- 9	7	- 6	- 4	-10	-17	-21	-32	-27	-18	-20	-16	-16	-20	-12	- 6.7
Howard	Maximum	27	39	30	23	28	33	30	23	23	9	9	10	6	6	0	3	0	12	12	10	11	20	8	0	8	-10	7	20	3	16	32	14.5
	Minimum	14	12	10	18	17	28	19	11	- 1	- 6	-10	- 5	-14	-14	-25	-26	-20	- 6	- 1	- 6	-15	-18	-10	- 8	-20	-20	-20	- 9	-20	-18	- 3	- 5.0
Jamestown §§	Maximum	29	35	40	40	39	45	31	25	18	19	13	13	0	4	0	8	20	19	15	16	19	5	0	-12	- 2	8	17	25	- 2	11	36	17.2
	Minimum	21	19	18	18	19	15	14	18	- 2	-10	-18	- 9	-18	-22	-20	-20	- 8	- 8	8	1	- 6	-14	-13	-19	-24	-22	-19	-19	- 9	-20	-19	- 5.4
Lakota	Maximum	22	——	——	24	27	28	26	25	16	- 4	3	9	10	- 5	1	3	13	20	13	9	13	- 3	- 8	-12	-10	I	12	18	6	10	28	10.2
	Minimum	16	——	—	11	5	9	19	16	-10	-18	-18	-18	-20	-29	-27	-29	-15	0	- 3	- 3	-10	-24	-27	-33	-35	-27	-24	-20	-17	-22	- 3	-12.3
Lamoine	Maximum	40	38	43	28	43	41	30	23	18	14	6	6	9	3	1	0	11	20	13	15	15	14	1	- 3	- 5	5	14	18	6	9	33	16.4
	Minimum	19	8	15	10	19	19	22	9	- 1	-11	- 7	- 7	-13	-23	-21	-26	-15	- 1	0	-10	- 9	-18	-14	-16	-31	-23	-25	-13	-17	-23	- 7	- 6.8
Langdon	Maximum	19	25	25	31	30	29	26	20	4	2	5	14	3	10	- 4	- 3	20	20	12	11	11	0	- 6	- 9	- 3	5	9	14	4	9	25	11.5
	Minimum	15	14	10	7	15	15	15	4	- 5	-12	-15	- 9	-20	-28	-28	-27	-12	4	0	- 5	-15	-25	-27	-34	-32	-23	-24	-18	-19	-24	- 3	- 9.9
Larimore §§	Maximum	23	25	33	31	30	25	25	22	0	14	10	12	-14	3	19	6	22	19	18	0	16	23	6	10	1	6	12	14	4	12	29	14.7
	Minimum	17	17	14	6	6	11	14	16	- 6	-10	- 8	- 8	-14	-22	-20	- 6	-12	- 3	- 8	- 3	- 4	-19	-21	-29	-25	-22	-19	-13	-19	-14	- 2	- 6.5
Lisbon §§	Maximum	34	38	39	41	33	30	28	18	15	10	8	10	10	5	13	12	22	25	17	20	22	14	10	- 8	- 7	24	14	24	4	12	——	18.0
	Minimum	19	16	12	20	28	15	12	10	0	-10	-10	-12	- 6	-22	-16	-23	-20	0	- 5	-12	- 8	-17	-19	-16	-36	-35	-23	-21	- 7	-20	-20	- 7.3
McHenry	Maximum	26	26	25	25	30	30	28	26	19	16	12	2	14	- 2	- 6	6	17	16	15	11	0	6	0	3	- 1	7	15	22	10	10	33	14.2
	Minimum	18	18	15	12	11	11	19	15	- 4	-10	-10	- 8	-15	-21	-20	-23	-11	6	2	0	-19	-11	-10	-17	-32	-20	-20	-16	-15	-20	- 6	- 5.8
McKinney	Maximum	30	35	35	32	32	27	26	28	22	18	10	15	5	10	10	22	25	20	22	15	15	10	7	16	0	4	0	12	10	18	35	18.3
	Minimum	17	12	5	7	13	15	15	17	-10	-15	-19	-15	-24	-24	-20	-10	-15	- 5	- 4	-10	-10	-15	- 4	-14	-15	-42	-15	-20	-15	-23	-20	- 8.5
Manfred	Maximum	25	43	38	30	44	37	30	24	21	15	10	12	12	4	0	7	22	20	15	10	16	7	0	- 2	-10	6	15	20	8	12	20	16.5
	Minimum	20	16	16	10	14	15	21	16	- 4	- 8	-12	- 5	-17	-20	-21	-24	-10	8	5	0	- 8	-17	-21	-16	-35	-21	-22	-15	-20	-20	- 6	- 5.8
Marmarth	Maximum	42	38	51	49	43	33	30	22	19	12	3	4	4	12	4	3	19	21	13	8	24	23	33	25	13	19	22	28	15	26	37	22.4
	Minimum	15	9	16	13	12	15	21	18	10	- 3	-12	- 2	-16	-12	-17	-28	-15	- 5	-10	- 4	- 4	7	8	10	0	0	1	0	4	5	5	1.3
Minot §§	Maximum	30	42	33	32	39	28	28	23	19	19	17	20	15	16	13	12	28	20	16	12	20	11	10	5	1	5	8	14	10	12	39	19.3
	Minimum	10	12	11	9	15	15	20	19	4	-13	-11	-15	-12	-21	-19	-24	-16	- 4	- 4	- 1	- 3	-16	-14	-13	-41	-40	-21	-12	-14	-18	- 8	- 7.4
Mott	Maximum	48	50	57	40	38	27	23	16	13	4	7	11	20	6	19	8	18	26	22	21	27	28	25	13	16	21	28	25	20	29	23	23.5
	Minimum	6	7	8	13	20	14	10	4	- 1	- 6	-13	- 8	- 4	-25	-19	-36	-21	12	7	-18	-12	- 5	- 3	- 4	-17	-12	- 5	- 8	-11	-12	- 4	- 5.6
Napoleon §§	Maximum	44	47	46	46	47	43	31	24	19	10	10	11	4	7	- 3	- 2	21	18	16	10	20	22	5	- 3	0	9	17	21	- 3	13	37	18.9
	Minimum	18	14	16	15	20	14	20	19	0	-20	-20	-14	- 8	-29	-23	-30	-13	0	0	- 3	-13	-18	-12	-19	-35	-25	-22	-17	-16	-21	-15	- 7.6
New England	Maximum	37	36	30	35	35	37	30	24	17	20	10	2	——	5	- 7	- 5	18	9	5	——	20	25	15	5	18	7	15	20	8	——	——	17.1
	Minimum	10	18	- 3	1	6	21	10	18	7	12	- 5	-10	——	-24	-19	-35	-15	- 8	- 6	——	-10	-16	- 5	- 3	-12	- 5	- 2	- 3	-10	——	——	- 3.3
New Rockford	Maximum	30	28	26	28	32	28	26	28	25	15	21	26	15	5	12	1	8	10	22	25	15	20	- 4	-10	- 3	- 2	- 1	17	18	6	- 4	14.9
	Minimum	22	20	19	16	19	17	16	- 9	- 8	-12	- 4	- 8	- 7	-10	-10	-17	- 5	- 3	6	- 8	- 5	-14	-23	-33	-22	-21	-13	-13	-11	-13	-23	- 4.0
New Salem	Maximum	37	42	43	29	43	39	34	27	29	2	8	10	10	4	0	0	18	21	14	0	20	25	8	2	- 3	10	20	25	8	16	39	18.7
	Minimum	15	2	11	11	19	19	27	17	- 4	- 3	-12	- 4	- 9	-19	-20	-30	-14	5	-12	- 7	- 8	- 9	2	-11	-27	-18	-20	- 9	-15	-16	- 2	- 4.5
Orange	Maximum	31	31	34	32	37	31	32	25	19	5	- 1	8	7	9	4	1	18	21	10	8	21	25	28	5	8	14	22	28	9	21	36	18.7
	Minimum	3	3	8	5	22	22	23	18	3	- 5	- 8	- 3	0	-25	-25	-30	16	5	-13	- 4	-11	- 2	- 3	- 1	1	-11	4	9	-14	5	27	0.6
Oriska	Maximum	24	27	27	43	45	35	33	33	25	5	18	12	12	12	2	- 4	4	17	18	17	17	20	6	6	15	- 6	6	14	21	21	34	18.0
	Minimum	20	21	21	22	18	17	17	9	0	-12	- 8	-15	-20	-20	-18	-21	-19	0	-14	-15	-15	-20	-21	-21	-32	-20	-22	-16	-19	-19	-14	- 7.6
Park River	Maximum	23	23	31	18	26	25	23	23	17	15	8	12	12	8	- 6	2	21	22	14	12	13	1	- 5	- 8	- 5	4	12	20	4	10	28	13.0
	Minimum	17	15	10	6	6	2	16	16	- 7	-10	- 7	-10	-13	-22	-22	-18	- 4	10	1	- 1	- 4	-19	-19	-28	-26	-20	-17	- 9	-13	-15	0	- 5.9
Pembina §§	Maximum	34	22	14	10	12	10	0	12	5	8	12	- 7	0	-10	- 5	8	5	- 2	8	-12	- 5	- 2	- 8	- 5	0	5	-10	- 8	0	5	- 2	5.3
	Minimum	18	12	10	6	- 5	- 4	- 2	- 7	-13	-17	-15	- 8	-27	-18	-22	-12	-12	-18	-22	-27	-32	-22	-28	-18	-18	-12	- 8	-22	-18	-16	- 8	-12.4
Power	Maximum	31	38	42	42	36	37	35	32	10	14	12	10	9	5	5	4	10	22	10	23	22	——	16	0	- 1	11	10	18	- 4	12	30	17.9
	Minimum	23	22	23	24	28	14	30	10	4	- 7	- 5	- 5	- 8	-20	-16	-21	- 6	8	6	0	-10	-22	-16	-15	-35	-22	-23	-20	- 7	-20	10	- 2.5
Towner	Maximum	27	42	38	27	40	32	31	26	20	11	7	13	10	3	0	6	15	23	15	9	14	3	- 2	- 4	- 6	- 1	10	16	7	15	33	15.5
	Minimum	20	17	12	15	18	11	22	19	- 5	- 9	-15	0	-15	-20	-20	-24	-10	4	13	1	-10	-12	-18	-19	-35	-19	-22	-16	-19	-23	- 6	- 6.2
Turtle Lake	Maximum	29	42	45	35	44	40	37	27	21	10	7	11	10	6	——	——	—	—	——	——	14	19	4	5	- 1	7	5	20	13	12	39	20.0
	Minimum	3	12	- 4	- 8	- 2	0	3	1	-13	-28	-30	-22	-27	-37	——	——	——	——	——	——	- 6	-14	- 9	-10	-32	-16	-18	-10	-14	-20	- 6	-12.3
University	Maximum	23	25	36	37	32	31	28	27	4	15	11	13	11	- 5	- 6	5	16	24	17	15	16	2	- 4	-11	- 4	5	12	13	2	10	28	13.8
	Minimum	19	17	7	7	6	9	18	4	- 6	- 8	- 4	- 7	-16	-20	-20	-20	- 7	3	- 3	- 9	-17	-20	-20	-28	-28	-19	-20	-18	-15	-18	10	- 7.2
Wahpeton §§	Maximum	29	35	39	45	40	43	44	43	25	19	15	20	19	7	2	9	20	26	22	50	25	7	4	20	3	0	18	25	- 4	12	35	21.0
	Minimum	23	24	19	22	20	10	30	35	6	- 5	- 3	- 1	- 7	-16	-15	-18	- 8	9	11	2	-12	-11	-21	-18	-35	-25	-25	-18	- 7	-19	4	- 1.9
Washburn	Maximum	——	40	45	34	42	40	30	25	20	7	9	11	12	5	3	4	19	23	12	10	20	22	6	——	0	8	20	24	11	15	42	19.3
	Minimum	—	8	16	32	20	21	23	20	6	-12	-11	- 2	- 1	-16	-14	-25	-11	9	5	2	- 9	-12	- 1	——	-28	-14	-17	-10	-11	-17	- 3	- 1.9
Westhope	Maximum	26	37	36	37	36	32	24	24	18	12	9	14	4	3	0	4	18	25	14	9	13	2	- 2	- 4	- 5	5	7	10	5	17	32	14.9
	Minimum	19	17	10	13	17	16	19	16	- 7	-11	-17	1	-19	-19	-21	-27	-16	6	- 6	- 4	-11	-16	-14	-23	-36	-17	-25	-16	-21	-22	-15	- 7.5
Williston	Maximum	27	37	10	32	30	33	27	22	19	10	10	13	7	7	- 2	5	13	22	11	9	13	20	8	3	3	9	8	16	- 3	16	36	16.2
	Minimum	11	9	10	13	15	20	22	18	10	-12	-14	7	-10	-10	-19	-21	-10	4	3	- 3	- 8	- 8	- 1	6	-30	-21	-22	- 5	-15	-12	- 2	- 2.8
Willow City	Maximum	30	34	36	30	32	25	25	26	6	3	12	- 4	0	- 5	0	16	17	7	2	2	2	- 4	- 4	-13	1	2	10	-10	- 8	14	27	10.1
	Minimum	17	16	3	8	17	10	21	18	- 6	- 8	- 1	-16	-19	-21	-25	-16	-26	- 4	-24	-35	-25	-20	-20	-31	-26	-25	-29	-32	-30	-20	- 8	11.6

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

OF THE

CLIMATOLOGICAL DATA

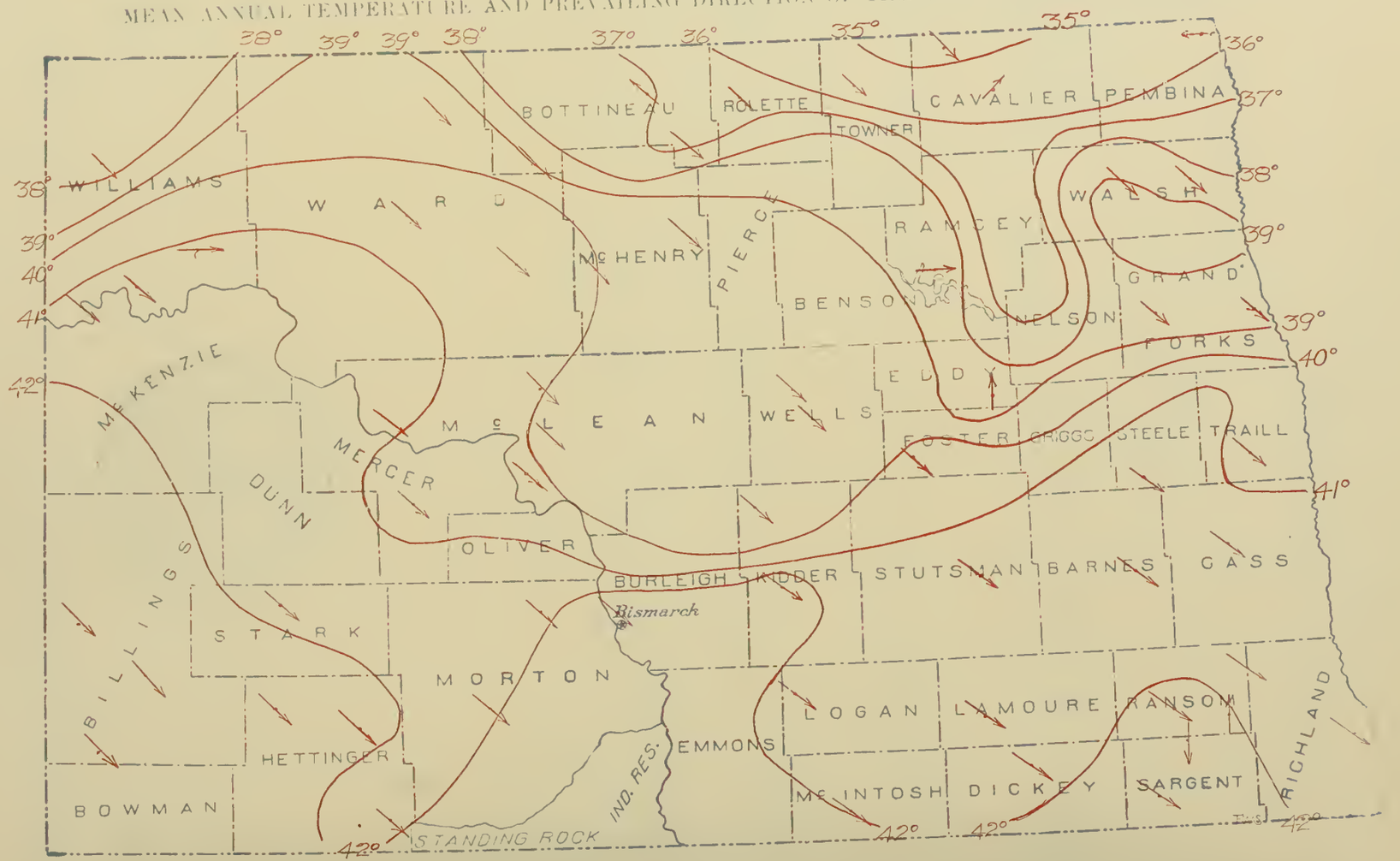
NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1914.

BY
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SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 8, 1915.

MEAN ANNUAL TEMPERATURE AND PREVAILING DIRECTION OF THE WIND FOR THE YEAR 1911.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

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GENERAL SUMMARY.

From a crop, as well as from a personal comfort, standpoint, the weather conditions in North Dakota during the year 1914 were exceptionally favorable. The temperature for the year was above the normal, plus departures occurring during January, March, May, July, September, October and November. Mean monthly temperature records were broken during July and October, the means for these months being the highest ever recorded since the climatological service was established in 1892. Occasionally high temperatures were recorded, but no records of extremes of temperature were broken. Hot winds in the southwestern part of the State, and moderately high temperature following excessive rains in June in the eastern part, did considerable damage to small grain, particularly wheat. An unusual number of deaths from lightning, which also destroyed several buildings, occurred. Many of these severe electrical storms were accompanied by hail. The precipitation was somewhat above the normal, plus departures, however, occurring only in January, March, April and June. It will thus be seen that the distribution throughout the season was uneven. In fact, the accumulation during June is almost entirely responsible for the plus departure for the year, as during the last six months the precipitation was below the normal every month. The geographical distribution was more uniform. The heaviest precipitation occurred in the lower Missouri Valley and in the southeastern portion of the State; the least was in the northeastern portion.

The mean annual temperature was 40.0°, or 1.3° above the normal, and 0.1° lower than the mean for 1913. The highest mean annual temperature reported was 43.4° at Steele, Kidder County; the lowest was 34.8° at Hannah, Cavalier County. The highest temperature reported was 109° at Napoleon, Logan County, on July 26th; the lowest was −47° at Grafton, Walsh County, and Hannah, Cavalier County, on February 11th. During the past twenty-three years the mean annual temperature has been lower sixteen times, and higher six times, than during the year 1914. The highest mean annual temperature was 41.0° in 1900 and 1910; the lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was −54° at Willow City, Bottineau County, on January 1, 1893, and at Marstonmoor, Stutsman County, on January 12, 1913.

The average precipitation for the State for the year was 19.21 inches, or 1.11 inches above the normal, and 4.29 inches more than the average for 1913. The greatest annual precipitation reported was 26.41 inches at Energy, McLean County; the least was 12.99 inches at Bottineau, Bottineau County. The greatest monthly amount reported was 13.28 inches at Carson, Morton County, in June; no precipitation whatever occurred at Orange, Adams County, in January and February, and at Bowbells, Burke County, Carson, Morton County, and Garrison, McLean County, in February. During the past twenty-three years there have been thirteen with less precipitation, and nine with more, than during the year 1914. The average snowfall for the year was 40.0 inches. The greatest depth of snowfall was 61.5 inches at Willow City, Bottineau County; the least was 12.2 inches at McLeod, Ransom County. The average number of days with 0.01 inch or more of precipitation was 70. There were 155 clear days, 110 partly cloudy, and 100 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—Exceptionally mild and pleasant weather prevailed throughout the entire State and, all elements considered, was one of the mildest Januarys of record. The mean temperature, with but two exceptions, was the highest of any January since the climatological service was established in 1892. Nearly normal precipitation, somewhat deficient sunshine and wind movement slightly above the average were other characteristics of the weather for the month.

FEBRUARY.—Changeable and disagreeable weather prevailed generally. The month opened with mild temperature, but changed to much colder on the 3d, and this condition obtained for a period of more than ten days, causing the mean temperature for the month to be considerably below normal. The first decade was the coldest, and the last decade was the warmest. The precipitation was slightly deficient, and was unevenly distributed geographically. Nearly normal sunshine and wind movement prevailed.

MARCH.—The weather during the month was similar in many respects to that of February, being changeable and disagreeable. Mild temperature prevailed at the opening of the month, and remained above the normal until nearly the close of the second decade, when the temperature fell below the normal and so remained until the close of the month. The second decade was warmest, and the last decade was the coldest. The mean temperature for the month was somewhat above the normal. Nearly the average precipitation occurred, and was quite evenly distributed geographically and throughout the month. The sunshine and wind movement were nearly normal.

APRIL.—Generally favorable weather prevailed. Although the cool weather and lack of sunshine delayed the development of foliage, fall sown grains made rapid growth. Rains interfered with field work to quite an extent in the eastern portion of the State, especially during the latter part of the month. A severe sleet storm caused considerable damage and inconvenience. The heaviest precipitation occurred in the Red River Valley, and the least in the southwest portion, the average for the State being above the normal. The temperature and sunshine were below the normal.

MAY.—The weather conditions throughout the State were favorable for the seeding, germination and growth of crops, especially all kinds of small grains. In some parts of the State the heavy rains interfered more or less with farm work, especially during the first week. The temperature was above the normal, there was somewhat less than the usual sunshine, and the precipitation was slightly deficient. The precipitation was quite unevenly distributed geographically, but uniformly throughout the month. As a result of the favorable weather conditions, the ranges were covered with more grass, considering the time of year, than for many years, and crop prospects during the past decade were never so favorable before.

JUNE.—Exceptionally favorable weather for all kinds of crops prevailed over the entire State. In some parts heavy rains interfered with field work, but on the whole, work was well advanced at the close of the month. The temperature was slightly below the normal, and there was somewhat less than the usual sunshine. The precipitation was the heaviest of record in the State. All stations, except in the northwest portion, showed

amounts above the normal. Railway traffic was delayed considerably by the washing out of tracks and bridges by the overflowing of streams.

JULY.—Unusually high temperature prevailed during July throughout the Section. The night temperatures were high, and as a result corn made rapid growth. Conditions for small grains, however, were not quite so favorable. In the western portion grains suffered considerably from hot winds, and in the central and eastern portions much damage resulted from rust. The mean temperature was the highest of record since the climatological service was established in the State. The average precipitation was below the normal, and the distribution was fairly even. There was a large number of severe thunderstorms, in many instances accompanied by hail. An unusual number of deaths occurred from lightning, which also destroyed several buildings, and much damage resulted from hail.

AUGUST.—Generally favorable weather prevailed throughout the State. Harvesting was well advanced at the close of the month, and considerable threshing done. During the first decade high temperatures were recorded, in many instances 100° or more. During the last decade frosts, from light to killing, occurred. From the 17th to the 25th, inclusive, rains interfered with both late harvesting and early threshing. The temperature was slightly below the normal, and the precipitation was somewhat deficient. Pastures and hay lands produced an exceptionally heavy growth of grass, insuring fine fall and winter feed. Rust in the eastern portion of the State caused a decreased wheat yield.

SEPTEMBER.—Except for two stormy periods of short duration, generally favorable weather for fall work prevailed. Threshing made good progress, and was well advanced at the close of the month. Corn was in excellent condition, and favorable weather conditions insured the best yield ever recorded in the State, the delayed frosts allowing most of the late planted fields to mature. The temperature averaged above the normal, the night temperatures being unusually high, considering the season of the year. While light to killing frosts were reported from various parts of the State, no serious damage resulted. The precipitation was considerably less than the normal, but generally ample for all needs. Much fall plowing was done.

OCTOBER.—Exceptionally mild and pleasant weather prevailed throughout the State during the entire month. With a mean temperature the highest ever known for October in the climatological history of the Section, with no severe storms, but precipitation ample for present needs, with more than the usual sunshine, fall work made excellent progress. Threshing was practically completed, corn harvesting was well advanced and much fall plowing was done at the close of the month. None of the streams or other bodies of water showed ice formations. The stage of water in the Missouri River and its tributaries was lower than usual.

NOVEMBER.—With a mean temperature nearly five degrees above the normal, considerably more than the usual sunshine, precipitation but slightly more than one-half of the average, nearly normal wind movement, and no severe storms, the weather throughout the State was very favorable for fall work, for livestock on the ranges, and for personal comfort. Preceded by two months of exceptionally fine weather, the fall of 1914 will long be remembered as being nearly ideal.

DECEMBER.—The weather for the month was characterized by continuous low temperatures. While there have been two colder Decembers in the climatological history of North Dakota, none was productive of such continuous cold. The mean temperature was more than seven degrees below the normal. While no severe storms occurred, there was normal precipitation, all of which occurred in the form of snow. Nearly normal sunshine and wind movement prevailed.

NOTES.

Tables giving the daily temperature extremes and the daily precipitation, also tables showing the difference between the normals and the monthly averages of temperature and the total monthly amounts of precipitation at the several stations have been published regularly in the monthly report "Climatological Data, North Dakota Section," copies of which will be furnished on application at the Local Office of the United States Weather Bureau, Bismarck, No. Dak.

Indexes to special articles published in the several monthly and annual issues of this Bulletin will be found in the Annual Summary for 1905, and in the Monthly Summary for June, 1909.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	May 15	Oct. 14	Larimore	May 14	Oct. 13
Aplin	" 14	Aug. 26	Lisbon	" 14	" 19
Ashley	" 13	" 26	McHenry	" 14	Aug. 26
Beach	" 31	Sept. 22	McKinney	" 14	" 26
Berthold Agency	" 13	Oct. 5	McLeod	" 17	Sept. 25
Bismarck	" 13	" 14	Mandan	" 13	.....
Bottineau	" 14	Sept. 23	Manfred	" 14	Oct. 5
Bowbells	" 14	" 22	Manning	.....	Aug. 26
Bowman	.....	Oct. 5	Marmarth	May 13	Sept. 14
Buford	May 13	" 5	Marstonmoor	.....	Aug. 26
Cando	" 26	" 5	Mayville	May 15	Sept. 25
Carson	" 14	Aug. 26	Melville	" 15	Oct. 5
Colgate	.....	Sept. 4	Minot	" 14	Aug. 26
Crosby	May 14	.....	Minto	" 15	Sept. 4
Devil's Lake	" 14	Oct. 13	Mott	" 13	Aug. 25
Dickinson	" 14	" 5	Napoleon	" 14	" 26
Donnybrook	" 15	Sept. 22	New England	" 14	.....
Dunseith	" 14	" 22	New Salem	" 14	Aug. 25
Eckman	" 15	" 22	Orange	" 29	" 26
Edgeley	" 15	" 25	Oriska	" 22	" 26
Fessenden	" 15	Oct. 5	Park River	" 14	Sept. 4
Forman	" 13	" 11	Pembina	" 14	Oct. 12
Fullerton	" 14	" 14	Power	" 14	Sept. 25
Garrison	" 14	Aug. 26	Ranger	.....	Aug. 25
Goodall	" 14	Oct. 14	Steele	May 14	" 26
Grafton	" 15	Sept. 4	Towner	" 12	Sept. 22
Granville	" 14	" 22	Turtle Lake	" 12	Oct. 5
Hannah	June 19	Aug. 26	University	" 12	" 13
Hansboro	May 15	Sept. 24	Wahpeton	" 12	" 14
Hettinger	" 14	.....	Walhalla	.....	Aug. 24
Hillsboro	" 15	Oct. 13	Washburn	May 14	.....
Howard	" 14	Aug. 26	Westhope	" 14	Sept. 22
Jamestown	" 15	Oct. 14	Williston	" 13	Oct. 5
Lakota	" 15	Sept. 25	Willow City	" 14	Aug. 26
Lamoine	" 15	Aug. 26	Zap	" 13	" 26
Langdon	" 14	Oct. 13	Moorhead, Minn.	" 12	Oct. 14

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−0.9	108	−48	18.14	+0.04
1893	35.8	−2.9	112	−54	15.85	−2.25
1894	40.4	+1.7	107	−47	16.10	−2.00
1895	37.8	−0.9	104	−50	19.09	+0.99
1896	37.3	−1.4	107	−42	23.57	+5.47
1897	37.8	−0.9	109	−48	15.88	−2.22
1898	39.1	+0.4	106	−38	15.46	−2.61
1899	36.3	−2.4	109	−48	17.93	−0.17
1900	41.0	+2.3	111	−48	19.05	+0.95
1901	40.4	+1.7	110	−43	18.48	+0.38
1902	39.6	+0.9	106	−39	17.61	−0.49
1903	38.4	−0.3	108	−49	19.30	+1.20
1904	38.0	−0.7	103	−52	19.19	+1.09
1905	39.3	+0.6	107	−46	20.88	+2.78
1906	39.5	+0.8	109	−40	20.53	+2.43
1907	37.0	−1.7	104	−49	14.89	−3.21
1908	40.6	+0.9	101	−41	18.79	+0.69
1909	38.2	−0.5	109	−48	17.77	−0.33
1910	41.0	+2.3	114	−50	12.34	−5.76
1911	38.3	−0.4	108	−43	19.09	+0.99
1912	38.2	−0.5	124	−52	20.50	+2.10
1913	40.1	+1.4	106	−51	14.92	−3.18
1914	40.0	+1.3	109	−47	19.21	+1.11

Climatological Data for the Year 1914.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	19	.....	100	July 27	−36	Feb. 7	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Aplin	Oliver	.....	8	40.8	99	July 26	−35	Feb. 6	8	22.50	9.86	June	0.15	Jan.	.....	64	.....	.....	.....	.....
Ashley	McIntosh	2,001	18	41.9	104	July 26	−30	Dec. 25	18	15.11	3.93	June	T.	Feb.	27.0	58	211	66	88	nw.
Beach	Golden Valley	2,576	9	42.4	105	July 20	−36	Feb. 6	9	15.91	5.55	June	0.15	Jan.	.....	65	211	103	51	nw.
Berthold Agency	McLean	2,082	21	41.1	100	July 20	−39	Feb. 7	21	19.06	7.65	June	0.10	Feb.	16.8	68	182	109	74	nw.
Bismarck	Burleigh	1,674	40	42.1	98	July 26	−32	Feb. 7	40	22.98	9.90	June	0.25	Jan.	39.4	103	145	111	109	nw.
Bottineau	Bottineau	1,638	23	37.1	102	July 26	−36	Feb. 7	23	12.99	2.58	June	0.12	Dec.	.....	94	110	108	147	se.
Bowbells	Burke	1,958	3	.....	101	July 26	−38	Dec. 25	3	17.23	5.89	June	0.00	Feb.	.....	65	.....	.....	.....	.....
Buford	Williams	1,944	36	41.7	101	Aug. 3	−39	Feb. 6	36	18.77	6.85	June	0.21	Nov.	43.5	62	80	154	131	nw.
Cando	Towner	1,488	13	38.3	100	July 27	−40	Feb. 7*	14	14.89	4.27	June	0.15	Feb.	.....	53	.....	.....	.....	.....
Carson	Morton	.....	3	41.5	95	July 25	−34	Feb. 6*	3	25.34	13.28	June	0.00	Feb.	13.0	58	190	106	69	nw.
Colgate	Steele	1,177	.....	.....	.....	.....	.....	.....	1	15.55	3.86	June	T.	Feb.	25.9	69	.....	.....	.....	nw.
Crosby	Divide	1,954	8	.....	98	July 26	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	Ramsey	1,482	10	38.3	96	July 27	−33	Feb. 6	10	17.34	5.84	June	0.16	Feb.	29.1	101	118	118	129	w.
Dickinson	Stark	2,543	23	41.5	100	July 20	−39	Feb. 6	23	22.74	7.88	June	0.04	Jan.	29.5	82	89	180	96	nw.
Donnybrook	Ward	1,760	11	.....	95	July 27	−34	Feb. 6	16	17.96	5.91	June	0.13	Dec.	26.6	57	.....	.....	.....	nw.
Dunseith	Rolette	1,682	19	.....	97	July 27	−40	Feb. 6	19	17.09	3.73	June	0.22	Dec.	.....	71	.....	.....	.....	nw.
Eckman	Bottineau	.....	9	.....	99	July 26*	−39	Feb. 7	9	15.59	5.25	June	0.05	Feb.	34.0	70	.....	.....	.....	nw.
Edgeley	LaMoure	1,468	14	41.7	99	July 25	−32	Feb. 6	14	17.80	4.91	Apr.	0.10	Nov.	12.7	60	68	123	174	nw.
Energy	McLean	.....	.....	.....	.....	.....	.....	.....	2	26.41	10.18	June	0.31	Jan.	.....	65	150	102	113	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	7	15.75	5.66	June	0.17	Dec.	28.9	45	217	80	68	w.
Fessenden	Wells	1,610	3	38.8	97	July 27	−38	Dec. 25	3	20.51	6.58	June	0.24	Dec.	32.1	81	190	84	91	nw.
Forman	Sargent	1,249	23	42.6	99	July 26	−33	Dec. 25	23	24.53	9.67	June	0.22	Jan.	.....	70	.....	.....	.....	nw.
Fullerton	Dickey	1,439	17	41.4	98	July 25*	−35	Feb. 7	17	19.57	5.04	June	0.30	Jan.	29.0	72	157	118	90	nw.
Garrison	McLean	1,901	20	40.4	100	July 26	−36	Feb. 7	20	20.47	7.59	June	0.00	Feb.	36.7	47	137	141	87	nw.
Grafton	Walsh	827	23	37.7	96	July 9	−47	Feb. 11	23	21.47	5.86	June	0.45	Nov.	35.0	91	.....	.....	.....	nw.
Granville	McHenry	1,504	8	40.0	96	July 25	−32	Dec. 24	8	18.73	7.10	June	0.10	Nov.	30.2	50	.....	.....	.....	nw.
Hannah	Cavalier	1,568	8	34.8	101	Aug. 3	−47	Feb. 11	10	16.60	2.87	June	0.10	Feb.	37.0	46	.....	.....	.....	nw.
Hansboro	Towner	1,597	7	.....	107	July 26	−41	Feb. 11	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Hillsboro	Traill	901	9	40.7	94	July 9	−37	Feb. 11	9	23.32	5.41	June	0.47	Sept.	30.5	92	188	102	75	nw.
Howard	Williams	2,275	6	37.7	97	July 27*	−39	Feb. 6	6	17.10	6.45	June	0.33	Apr.	40.6	48	100	156	109	nw.
Jamestown	Stutsman	1,310	23	41.2	100	July 9	−34	Feb. 8	23	22.57	5.70	June	0.60	Jan.*	.....	93	142	48	175	nw.
Lakota	Nelson	1,579	14	36.6	94	July 27	−40	Feb. 11	14	17.23	5.63	June	0.08	Feb.	.....	74	.....	.....	.....	.....
Lamoine	Kidder	.....	7	38.9	93	July 20*	−38	Feb. 6	7	17.48	8.16	June	T.	Feb.	24.0	41	.....	.....	.....	nw.
Langdon	Cavalier	1,615	19	35.6	95	July 27*	−43	Feb. 11	19	17.43	3.41	June	T.	Feb.	44.0	74	.....	.....	.....	sw.
Larimore	Grand Forks	1,134	20	38.8	95	July 9	−37	Feb. 11*	20	19.77	5.41	June	0.31	Nov.	.....	88	182	75	108	nw.
Lisbon	Ransom	1,091	11	42.2	101	July 15*	−36	Dec. 25	11	20.38	6.76	June	T.	Nov.	17.2	66	159	76	130	nw.
McHenry	Foster	1,509	5	38.7	98	July 27	−36	Feb. 7	5	18.57	3.64	June	0.02	Feb.	28.0	52	222	92	61	s.
McKinney	Renville	1,640	21	39.8	100	July 20*	−42	Dec. 25	21	15.96	4.93	June	0.20	Nov.	30.0	44	.....	.....	.....	nw.
McLeod	Ransom	1,075	2	.....	96	July 20	−34	Feb. 7	3	18.29	7.28	June	0.07	Oct.	12.2	69	205	107	53	s.
Mandan	Morton	1,644	1	.....	99	July 20	−33	Feb. 7	2	22.77	10.67	June	0.05	Feb.	.....	84	.....	.....	.....	.....
Manfred	Wells	1,605	12	39.8	100	July 27	−35	Feb. 7*	12	18.02	5.42	June	0.18	Feb.	32.4	76	172	107	86	nw.
Marmarth	Billings	.....	2	.....	101	July 26	−31	Feb. 6	6	13.93	5.14	June	0.01	Nov.	39.8	71	.....	.....	.....	nw.
Merstonmoor	Stutsman	.....	5	.....	96	Sept. 18	−45	Feb. 6	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayville	Traill	975	19	41.5	101	July 9*	−39	Feb. 11	19	18.83	4.54	June	T.	Feb.	.....	66	200	56	109	.....
Melville	Foster	1,590	17	40.6	102	July 9*	−34	Dec. 25	17	21.64	7.75	June	0.08	Feb.	25.8	52	.....	.....	.....	nw.
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	3	23.49	10.10	June	0.05	Jan.	27.3	53	153	107	105	n.
Minot	Ward	1,557	16	40.4	99	July 26	−41	Dec. 25	19	21.04	9.94	June	0.26	Dec.	22.7	68	166	89	110	nw.
Minto	Walsh	820	22	39.2	98	July 27	−43	Feb. 12	22	19.47	7.49	June	0.43	Feb.*	.....	68	177	79	109	.....
Mott	Hettinger	2,424	8	42.6	101	July 26	−36	Dec. 16	8	19.83	8.00	June	T.	Nov.	33.9	82	128	110	127	nw.
Napoleon	Logan	1,955	23	40.2	109	July 26	−36	Feb. 6	23	18.06	5.13	June	0.10	Nov.*	30.5	82	129	52	184	nw.
New England	Hettinger	2,400	21	.....	.....	.....	−35	Feb. 6*	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
New Rockford	Eddy	1,531	1	.....	.....	.....	−33	Dec. 24	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	Morton	2,163	10	41.3	97	July 26	−34	Feb. 6	10	21.60	10.15	June	0.10	Nov.	43.2	79	154	123	88	nw.
Orange	Adams	2,586	6	41.8	106	July 26	−32	Feb. 6	6	19.66	10.47	June	0.00	Jan.*	26.0	44	177	126	62	nw.
Oriska	Barnes	1,270	10	41.4	98	July 9*	−32	Dec. 25	10	15.61	4.34	June	T.	Feb.	.....	68	112	185	68	nw.
Park River	Walsh	998	11	39.4	97	Aug. 21	−41	Feb. 12	11	18.13	5.00	June	0.19	Feb.	17.0	81	116	177	72	nw.
Pembina	Pembina	789	35	35.6	102	July 27	−46	Feb. 11	41	14.34	2.85	July	0.38	Mar.	.....	70	157	104	104	e.
Power	Richland	1,020	23	41.4	94	July 11*	−35	Dec. 25	23	23.05	6.64	June	0.34	Nov.	34.8	71	161	84	120	nw.
Ranger	Billings	2,408	.....	.....	.....	.....	.....	.....	2	16.14	4.83	June	0.14	Nov.	36.6	66	196	64	105	nw.
Steele	Kidder	1,857	18	43.4	100	July 26	−36	Dec. 25	19	18.68	5.89	June	0.16	Dec.	.....	53	175	152	38	s.
Towner	McHenry	1,482	13	39.9	100	July 26	−37	Feb. 7	13	16.96	5.06	June	0.10	Dec.	26.0	61	.....	.....	.....	nw.
Turtle Lake	McLean	1,899	3	39.6	100	July 26	−37	Dec. 14	3	22.51	7.73	June	0.05	Nov.	34.5	74	.....	.....	.....	nw.
University	Grand Forks	830	23	38.7	95	July 9	−40	Feb. 11*	23	23.31	6.51	June	0.39	Feb.	24.2	107	159	97	109	nw.
Wahpeton	Richland	962	21	41.0	100	July 27	−35	Dec. 25	21	22.92	5.40	June	0.15	Jan.	.....	85	153	107	105	nw.
Washburn	McLean	1,734	10	.....	.....	.....	−34	Feb. 6	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	Bottineau	1,508	9	.....	99	July 26*	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Williston	Williams	1,875	36	41.1	99	Aug. 3	−34	Feb. 6	36	16.58	6.68	June	0.24	Nov.	18.2	86	82	141	142	se.
Willow City	Bottineau	1,471	23	36.2	103	July 26	−45	Feb. 7	23	19.03	3.70	June	0.44	Oct.	61.5	90	112	186	67	nw.
Zap	Mercer	.....	2	40.8	98	July 26	−38	Feb. 6*	2	23.32	9.93	June	0.10	Jan.	29.4	63	150	134	81	nw.
Moorhead, Minn.	Clay	935	34	41.1	95	July 27	−30	Feb. 7	34	25.49	8.92	June	0.34	Dec.	32.5	115	198	81	86	se.

* Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1914, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.43	−0.02	0.10	−0.28	0.65	+0.01	2.56	+0.63	1.04	−2.05	5.96	+2.13	3.82	+0.51	2.51	−0.57	0.94	−1.11	1.32	−0.08						
Aplin	0.15		0.50		0.87		1.88		2.48		9.86		0.94		1.88		1.79		0.76		0.40		1.01		22.50	
Ashley	0.30	−0.16	T.	−0.51	1.20	−0.16	1.49	−0.60	1.74	−0.42	3.93	+0.31	2.07	−0.42	1.64	−0.69	0.46	−0.47	1.07	+0.13	0.21	−0.32	1.00	+0.68	15.11	−2.63
Beach	0.15		0.65		0.37		0.68		2.02		5.55		0.41		4.01		0.90		0.62		0.31		0.24		15.91	
Belfield	T.		0.35		0.72																					
Berthold Agency	0.14	−0.27	0.10	−0.57	0.42	−0.54	1.11	+0.03	3.26	+0.51	7.65	+3.53	0.94	−1.04	2.70	+0.97	1.56	+0.08	0.48	−0.44	0.46	−0.08	0.24	−0.15	19.06	+2.03
Bismarck	0.25	−0.29	0.36	−0.14	1.23	+0.19	0.92	−0.96	3.61	+1.11	9.90	+6.36	2.04	−0.10	2.02	+0.04	1.10	−0.09	0.79	−0.24	0.42	−0.26	0.34	−0.28	22.98	+5.34
Bottineau	0.57	+0.13	0.15	−0.26	0.32	−0.64	1.34	+0.51	2.35	+0.07	2.58	−0.83	1.79	−0.76	1.63	−0.34	0.95	−0.84	0.68	−0.40	0.51	−0.09	0.12	−0.43	12.99	−3.88
Bowbells	0.62		0.00		0.25		0.54		2.97		5.89		2.61		2.63		0.46		0.56		0.40		0.30		17.23	
Bowman															1.23		0.60		0.88		0.05		0.55			
Buford	1.20	+0.70	1.00	+0.51	1.10	+0.55	0.45	−0.63	1.36	−1.07	6.85	+4.04	0.96	−0.74	3.34	+2.02	0.85	−0.13	0.55	−0.31	0.21	−0.27	0.90	+0.32	18.77	+4.99
Cando	1.00	+0.60	0.15	−0.11	0.47	−0.29	1.27	+0.36	1.35	−1.48	4.27	+0.31	1.17	−1.72	2.72	+0.19	1.00	−0.50	0.99	+0.25	0.25	−0.25	0.25	−0.13	14.89	−2.77
Carson	0.10		0.00		0.60		1.15		3.08		13.28		1.53		2.03		2.29		0.76		0.12		0.40		25.34	
Colgate	0.30		T.		0.89		2.70		1.11		3.86		2.17		1.54		0.58		1.25		0.50		0.65		15.55	
Crosby	0.45		0.05		0.41		T.		1.93		6.72		2.42		3.61						0.57					
Devils Lake	0.61	+0.01	0.16	−0.37	0.76	−0.25	1.21	−0.82	1.42	−0.78	5.84	+2.31	1.63	−2.15	2.06	−0.70	1.57	+0.18	1.15	−0.08	0.57	−0.14	0.36	−0.03	17.34	−2.82
Dickinson	0.04	−0.41	0.43	−0.06	1.27	+0.37	0.80	−0.42	2.61	+0.03	7.88	+5.01	5.50	+3.22	2.05	+0.03	1.20	+0.17	0.42	−0.34	0.25	−0.28	0.29	−0.16	22.74	+7.10
Donnybrook	0.78	+0.43	0.30	−0.35	0.84	−0.05	1.69	+0.84	2.14	−0.43	5.91	+3.09	3.00	+0.04	1.49	−0.85	0.84	−1.18	0.49	−0.41	0.35	−0.28	0.13	−0.41	17.96	+0.44
Dunseith	0.56	+0.10	0.52	+0.07	0.57	−0.41	1.37	+0.64	1.96	+0.27	3.73	+0.71	2.97	+0.56	2.21	−0.02	1.38	−0.27	0.80	+0.08	0.80	+0.45	0.22	−0.17	17.09	+2.01
Eckman	0.70		0.05		0.50		2.04		2.26		5.25		0.99		2.14		0.68		0.51		0.07		0.40		15.59	
Edgeley	0.13	−0.14	0.20	−0.14	0.57	−0.45	4.91	+3.12	1.51	−1.23	4.04	+0.70	2.60	−0.08	1.90	−0.45	0.75	−1.16	0.96	+0.18	0.10	−0.28	0.13	−0.32	17.80	−0.25
Energy	0.31		0.45		1.20		2.31		3.64		10.18		0.67		5.06		1.23		0.63		0.35		0.38		26.41	
Epping	0.40		0.19		0.47		0.50		1.27		5.66		2.93		2.87		0.42		0.73		0.14		0.17		15.75	
Fessenden	0.72		0.30		1.10		0.91		2.85		6.58		1.46		3.79		1.14		1.06		0.36		0.24		20.51	
Forman	0.22	−0.29	0.23	−0.20	1.66	+0.74	3.10	+0.89	2.24	−0.66	9.67	+6.30	2.23	−0.69	0.75	−2.22	2.01	+0.19	1.13	−0.23	0.59	+0.08	0.70	+0.21	24.53	+4.12
Fullerton	0.30	−0.35	0.62	−0.11	1.27	−0.04	4.02	+2.11	2.01	−1.20	5.04	+1.91	2.41	−0.86	1.20	−1.72	1.01	−1.28	0.64	−0.59	0.38	−0.30	0.67	−0.19	19.57	−2.62
Garrison	T.	−0.51	0.00	−0.64	1.00	−0.03	1.94	+0.88	3.24	+0.88	7.59	+4.24	2.01	−0.34	2.30	+0.41	1.07	−0.28	0.90	+0.08	T.	−0.68	0.42	−0.07	20.47	+3.94
Goodall									2.77		6.25		0.86				1.20		0.00		0.25		0.65			
Grafton	0.99	+0.41	0.83	+0.29	0.59	−0.15	2.40	+0.89	1.50	−0.73	5.86	+2.51	1.75	−0.78	3.87	+1.17	1.19	−0.72	1.56	+0.67	0.45	−0.19	0.48	−0.02	21.47	+3.35
Granville	0.67		0.10		0.95		1.03		2.73		7.10		1.67		2.24		0.88		0.76		0.10		0.50		18.73	
Haley	0.13		1.80		0.60		0.30																			
Hannah	1.60		0.10		0.60		2.25		2.86		2.87		1.67		1.14		1.42		1.08		0.50		0.50		16.60	
Hansboro	1.59		0.30				1.85		2.15		2.87		1.59		1.57		1.10		1.60		0.50		0.10			
Hettinger	T.		0.26		0.48		0.88		1.11				4.22													
Hillsboro	0.80		0.55		1.07		3.26		1.86		5.41		4.14		3.46		0.47		1.17		0.48		0.65		23.32	
Howard	0.90		0.43		0.90		0.33		0.86		6.45		2.09		2.78		1.07		0.39		0.40		0.50		17.10	
Jamestown	0.60	+0.06	0.80	+0.20	1.37	+0.36	2.92	+1.13	1.53	−1.33	5.70	+1.94	2.57	−0.25	2.29	−0.42	1.23	−0.31	2.00	+1.08	0.60	−0.13	0.96	+0.22	22.57	+2.55
Lakota	0.34	−0.48	0.08	−0.57	0.37	−0.24	1.17	−0.47	1.74	−0.76	5.63	+2.18	2.54	−0.37	1.65	−0.82	0.62	−0.45	1.52	+0.67	0.70	−0.08	0.87	−0.06	17.23	−1.45
Lamoine	0.40		T.		0.90		0.20		1.32		8.16		2.51		1.13		1.34		0.72		0.60		0.20		17.48	
Langdon	1.20		T.		0.40		0.88		1.44		3.41		1.69		2.77		1.49		1.45		0.70		2.00		17.43	
Larimore	1.15	+0.65	0.49	+0.16	0.39	−0.44	2.03	+0.51	2.08	−0.30	5.40	+1.95	1.62	−1.41	2.61	−0.37	1.20	−0.45	2.05	+0.74	0.31	−0.07	0.44	+0.05	19.77	+1.02
Lisbon	0.22	−0.35	0.57	−0.02	0.42	−0.26	3.22	+1.13	1.32	−2.45	6.76	+2.76	4.37	+1.02	1.14	−0.78	1.74	−0.34	0.11	−1.11	T.	−0.66	0.51	−0.12	20.38	−1.18
McHenry	0.40		0.02		1.13		1.42		2.97		3.64		2.72		2.59		1.05		1.52		0.50		0.61		18.57	
McKinney	0.75	+0.39	0.30	−0.01	0.60	−0.24	0.60	−0.35	2.07	−0.11	4.93	+1.47	2.25	+0.18	2.37	+0.80	0.28	−1.34	1.06	+0.28	0.20	−0.47	0.55	+0.12	15.96	+0.72
McLeod	0.10		0.20		0.30		2.70		1.63		7.28		3.22		0.64		1.58		0.07		0.15		0.42		18.29	
Mandan	0.07		0.05		1.89		1.07		3.52		10.67		1.32		1.32		1.28		0.90		0.31		0.37		22.77	
Manfred	0.54	−0.14	0.18	−0.34	1.17	+0.44	1.05	−0.19	2.60	−0.12	5.42	+1.99	1.02	−1.44	3.53	+1.11	0.97	−0.46	1.06	+0.18	0.20	−0.56	0.28	−0.58	18.02	−0.11
Manning															1.39		2.04		0.35		0.30		0.30			
Marmarth	0.17		0.24		0.45		0.78		2.31		5.14		0.82		1.98		0.63		1.19		0.01		0.21		13.93	
Marstonmoor	0.10		0.10								7.11		3.22		0.97		0.92		1.50		0.44		0.30			
Mayville	0.13	−0.24	T.	−0.40	0.70	+0.02	2.77	+1.10	2.98	+0.03	4.54	+1.53	1.96	−1.40	2.44	−0.79	0.74	−1.82	1.76	+0.52	0.15	−0.52	0.66	+0.19	18.83	−1.78
Melville	0.25	−0.10	0.08	−0.27	1.35	+0.73	0.85	−0.17	2.56	−0.04	7.75	+4.33	3.84	+1.01	2.07	−0.08	0.71	−0.63	1.28	+0.38	0.40	−0.02	0.50	+0.15	21.64	+5.29
Milnor	0.05		0.50		0.94		2.46		3.04		10.10		2.35		0.80		1.62		0.95		0.50		0.18		23.49	
Minot	0.35	−0.02	0.31	−0.19	0.80	+0.05	2.01	+0.75	2.43	+0.32	9.94	+6.70	1.32	−0.64	2.44	+0.20	0.48	−1.18	0.30	−0.67	0.40	−0.23	0.26	−0.11	21.04	+4.98
Minto	0.74	+0.26	0.43	−0.13	0.45	−0.45	1.79	+0.18	1.15	−1.34	7.49	+4.15	1.50	−1.29	2.86	+0.22	0.75	−1.36	1.24	+0.05	0.64	+0.08	0.43	−0.03	19.47	+0.34
Mott	0.46		0.98		1.45		0.91		1.92		8.00		1.47		2.23		1.03		0.64		T.		0.74		19.83	
Napoleon	0.35	−0.16	0.35	−0.10	1.20	+0.29	1.28	−0.46	2.62	+0.16	5.13	+1.35	3.24	+0.76	1.28	−1.23	0.43	−0.87	1.98	+1.10	0.10	−0.60	0.10	−0.39	18.06	−0.15
New England	0.12	−0.32	0.30	−0.39	1.47	+0.65	0.48	−0.50	1.96	−0.29	7.85	+5.34	2.24	+0.46	1.87	−0.03					0.44	−0.11	1.00	+0.58		
New Rockford	0.75		0.45								5.39								1.50							
New Salem	0.29		0.40		1.55		1.44		3.06		10.15		0.69		1.51		1.21		0.58		0.10		0.62		21.60	
Orange	0.00		0.00		1.40		0.58		1.66		10.47		0.66		1.48		0.92		1.29		0.00		1.20		19.66	
Oriska	0.25		T.		1.50		2.15		0.98		4.34		2.55		1.47		0.94		1.05		0.25		0.13		15.61	
Park River	0.56	+0.15	0.19	−0.26	0.24	−0.37	1.94	+0.67	1.49	−0.94	5.00	+1.46	1.85	−0.72	2.66	0.00	1.83	+0.14	1.36	+0.29	0.69	−0.15	0.32	−0.14	18.13	+0.13
Pembina	1.22	+0.63	0.74	−0.01	0.38	−0.57	0.62	−1.03	1.55	−1.08	2.43	−1.22	2.85	+0.26	1.56	−0.82	1.10	−0.75	0.80	−0.69	0.44	−0.28	0.65	−0.20	14.34	−5.16
Power	0.75	+0.20	0.55	−0.02	0.88	+0.17	4.10	+2.22	1.62	−1.20	6.64	+3.16	4.41	+1.06	1.09	−1.39	1.08	−0.81	0.89	−0.63	0.34	−0.30	0.70	+0.19	23.05	+2.65
Powers Lake															3.24		0.39		0.20		0.24		0.31			
Ranger	0.23		1.03		1.17		0.20		2.25		4.83		3.14		1.61		0.79		0.49		0.14		0.26		16.14	
Steele	0.22	−0.13	0.20	−0.27	0.83	−0.01	0.67	−0.39	1.72	−0.67	5.89	+2.56	5.22	+2.56	0.92	−1.36	0.40	−0.80	1.92	+1.20	0.53	−0.06	0.16	−0.22	18.68	+2.41
Towner	0.95	+0.53	0.20	−0.28	1.10	+0.09	1.49	+0.24	2.84	−0.07	5.06	+1.19	1.06	−1.48	2.50	+0.13	0.74	−1.30	0.72	−0.39	0.20	−0.30	0.10	−0.19	16.96	−1.83
Turtle Lake	0.47		0.55		1.82		1.00		4.21		7.73		0.82		3.51		0.99		1.14		0.05		0.22		22.51	
University	0.78	+0.26	0.39	−0.11	0.68	−0.05	2.13	+0.04	2.21	−0.35	6.51	+2.98	4.33	+1.74	3.17	+0.54	0.34	−1.66	1.80	+0.52	0.48	−0.25	0.49	−0.01	23.31	+3.65
Wahpeton	0.15	−0.28	0.35	−0.20	1.70	+0.74	3.12	+0.78	1.99	−0.81	5.40	+1.49	2.75	−1.31	1.43	−1.80	3.14	+1.06	1.41	−0.23	0.75	+0.08	0.73	+0.30	22.92	−0.18
Walhalla	1.80		0.80				1.60		2.65		2.52		2.44		1.67		1.97		1.01		0.60		1.60			
Washburn	0.12	−0.31	0.16	−0.24	1.32	+0.61	1.39	+0.28	2.80	+0.42	10.32	+7.19	0.76	−1.54							0.12	−0.61	1.10	+0.84		
Westhope	0.57								2.06		4.19		1.62		2.19		0.44		0.13		0.20		0.20			
Williston	0.55	−0.03	0.28	−0.19	0.50	−0.18	0.43	−0.80	1.19	−1.07	6.68	+3.11	2.32	+0.29	3.22	+1.91	0.46	+0.45	0.38	−0.39	0.24	−0.36	0.33	−0.33	16.58	−1.51
Willow City	1.70	+1.35	0.75	+0.35	1.81	+1.11	1.31	+0.38	2.23	+0.23	3.70	+0.17	1.76	−0.41	2.49	+0.54	0.96	−0.80	0.44	−0.23	0.83	+0.42	1.05	+0.63	19.03	+3.74
Zap	0.10		0.20		1.20		2.13		2.51		9.93		1.20		2.64		1.43		1.33		0.52		0.13		23.32	
Moorhead, Minn.	0.51	−0.20	0.42	−0.31	1.47	+0.33	2.97	+0.64	1.47	−1.48	8.92	+4.79	3.65	−0.09	2.89	−0.21	1.50	−0.80	0.99	−1.08	0.36	−0.62	0.34	−0.40	25.49	−0.40

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1914, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	13.0	+7.7	0.4	−7.4	28.6	+5.1	41.0	−1.1	58.6	+4.1	64.0	−0.1	73.2	+4.9	65.8	−0.4	59.5	+2.2	50.2	+5.2	.....	.....	.....	.....	.....	.....
Aplin	18.6	.....	5.8	.....	26.2	.....	43.2	.....	55.0	.....	62.6	.....	72.2	.....	64.7	.....	59.6	.....	[1]49.3	.....	[1]32.4	.....	[1] 0.0	.....	40.8	.....
Ashley	12.4	+4.7	4.6	−1.9	29.3	+7.2	45.2	+3.5	55.7	+2.2	63.2	+0.6	73.2	+4.9	65.4	−0.7	60.7	+3.8	51.4	+7.7	34.8	+8.8	7.4	−6.4	41.9	+2.9
Beach	23.1	.....	9.8	.....	26.0	.....	43.0	.....	53.8	.....	63.2	.....	72.7	.....	65.2	.....	58.8	.....	48.0	.....	34.9	.....	9.8	.....	42.4	.....
Berthold Agency	18.1	+11.4	4.8	−4.5	27.4	+2.4	42.0	−1.5	54.2	−0.1	61.8	−1.5	71.8	+2.9	64.4	−3.7	59.4	+1.8	48.5	+2.9	33.4	+5.9	7.2	−9.8	41.1	+0.5
Bismarck	17.9	+11.2	5.3	−3.0	27.6	+5.5	43.1	+0.5	55.6	+0.4	64.0	−0.2	73.3	+3.1	64.5	−3.6	61.0	+3.9	51.0	+6.9	34.6	+8.6	7.4	−7.6	42.1	+2.1
Bottineau	8.8	+8.9	6.1	−8.2	21.8	+4.1	37.6	−1.5	54.0	+2.8	60.8	+2.7	73.4	+7.7	64.0	+0.9	56.8	+1.1	48.2	+5.7	25.8	+3.6	0.4	−7.1	37.1	+1.7
Bowbells	17.8	.....	.....	.....	.....	.....	38.8	.....	53.1	.....	60.1	.....	70.8	.....	61.5	.....	55.4	.....	47.0	.....	26.8	.....	12.1	.....	.....	.....
Bowman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65.9	.....	.....	.....	48.8	.....	35.2	.....	11.4	.....	.....	.....
Buford	19.4	+13.6	6.0	−4.7	28.8	+5.2	45.0	+2.3	55.4	+1.2	62.6	−1.7	73.0	+3.6	65.4	−1.5	58.8	+3.0	48.7	+5.3	33.8	+7.0	4.0	−10.0	41.7	+1.8
Cando	8.0	+7.4	5.4	−8.9	[d]23.6	+1.8	38.8	−1.3	[1]55.6	+4.9	[c]61.2	+0.3	[e]70.7	+6.1	64.9	+2.9	[d]59.1	+3.7	[c]52.2	+8.6	[e]29.2	+4.0	[a] 1.9	−6.0	38.3	+1.9
Carson	20.0	.....	7.0	.....	27.8	.....	43.4	.....	53.7	.....	62.2	.....	70.8	.....	63.6	.....	59.4	.....	48.2	.....	33.9	.....	8.0	.....	41.5	.....
Crosby	13.7	.....	0.5	.....	25.0	.....	[e]41.4	.....	57.7	.....	61.2	.....	[e]71.2	.....	[e]64.3	.....	.....	.....	.....	.....	28.1	.....	.....	.....	.....	.....
Devils Lake	9.6	+9.3	3.6	−8.1	23.0	+4.5	37.4	−0.8	54.8	+2.1	61.6	−1.0	71.8	+3.7	63.2	−1.9	58.4	+2.8	50.8	+10.3	29.0	+6.4	3.6	−4.4	38.3	+1.9
Dickinson	22.1	+11.7	8.0	−3.9	26.4	+1.7	42.6	−0.1	53.3	+0.7	61.6	0.0	71.4	+3.5	63.0	−3.6	58.2	+1.6	48.1	+3.9	34.4	+7.1	8.6	−9.8	41.5	+1.1
Donnybrook	13.8	+10.2	0.4	−7.6	25.0	+1.7	40.4	+1.0	54.0	+4.1	59.8	−1.7	69.5	+4.0	62.8	−2.1	57.6	+2.8	[b]46.4	+3.1	.....	.....	[e] 1.8	−12.5	.....	.....
Dunseith	.....	.....	6.4	−10.1	20.2	+1.4	36.8	−3.9	53.3	+0.9	60.0	−1.6	69.4	+5.5	62.8	−0.7	56.8	+2.0	48.2	+6.0	26.4	+1.4	2.6	−6.6	.....	.....
Eckman	.....	.....	0.4	.....	24.4	.....	41.2	.....	53.6	.....	59.8	.....	70.2	.....	63.4	.....	57.5	.....	47.8	.....	27.8	.....	3.1	.....	.....	.....
Edgeley	15.8	+8.0	4.2	−6.6	26.9	−0.3	42.2	+0.2	57.0	+3.4	63.4	+0.2	72.2	+3.8	64.8	−1.7	60.7	+3.1	51.8	+5.8	33.8	+4.3	7.4	−7.5	41.7	+1.1
Fessenden	13.6	.....	1.0	.....	24.7	.....	39.4	.....	54.0	.....	60.6	.....	70.8	.....	62.6	.....	57.0	.....	49.8	.....	29.4	.....	4.5	.....	38.8	.....
Forman	16.2	+9.3	3.9	−5.8	28.5	+2.9	45.3	+1.4	58.5	+3.0	65.4	−0.2	74.2	+5.0	67.6	0.0	63.8	+4.7	52.2	+6.3	31.2	+4.0	[d] 5.2	−9.8	42.6	+1.7
Fullerton	15.6	+7.2	3.0	−6.3	27.3	+1.7	41.6	−0.7	55.8	+2.3	63.6	+0.6	73.0	+5.2	64.6	−1.5	60.2	+3.8	50.8	+6.2	33.3	+4.9	7.4	−6.8	41.4	+1.4
Garrison	16.2	+9.0	4.2	−4.3	25.4	+3.6	42.0	−0.4	54.0	+1.0	61.4	−1.4	71.0	+3.1	64.2	−1.6	59.0	+2.1	49.4	+5.2	32.2	+7.2	5.6	−9.2	40.4	+1.2
Goodall	.....	.....	.....	.....	.....	.....	.....	.....	[1]54.2	.....	62.4	.....	70.7	.....	.....	.....	59.3	.....	49.4	.....	32.6	.....	7.7	.....	.....	.....
Grafton	10.6	+9.2	8.0	−13.9	23.0	+3.8	36.5	−3.5	56.0	+2.8	62.4	−0.9	71.2	+3.8	63.1	−1.2	58.9	+3.0	50.7	+7.5	27.6	+5.1	0.1	−8.1	37.7	+0.6
Granville	14.6	.....	0.2	.....	27.0	.....	42.8	.....	57.2	.....	63.0	.....	73.6	.....	65.6	.....	56.4	.....	53.8	.....	20.5	.....	5.9	.....	40.0	.....
Haley	.....	.....	8.3	.....	.....	.....	45.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hannah	6.1	.....	8.6	.....	19.4	.....	33.8	.....	52.6	.....	58.6	.....	68.8	.....	61.6	.....	57.9	.....	48.7	.....	[b]19.2	.....	− 0.4	.....	34.8	.....
Hansboro	7.8	.....	3.8	.....	.....	.....	.....	.....	57.6	.....	.....	.....	72.8	.....	64.8	.....	58.6	.....	50.2	.....	29.7	.....	4.5	.....	.....	.....
Hettinger	24.2	.....	10.2	.....	27.0	.....	43.0	.....	52.5	.....	.....	.....	71.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hillsboro	13.8	.....	2.4	.....	26.4	.....	40.4	.....	57.2	.....	64.0	.....	72.6	.....	64.8	.....	61.5	.....	53.2	.....	31.2	.....	6.1	.....	40.7	.....
Howard	13.6	.....	0.1	.....	23.6	.....	40.0	.....	51.5	.....	57.6	.....	69.3	.....	62.7	.....	56.2	.....	44.4	.....	28.6	.....	5.0	.....	37.7	.....
Jamestown	15.0	+7.8	3.1	−5.1	26.3	+3.5	40.4	−2.1	57.6	+4.0	62.8	−0.8	73.1	+4.9	65.3	−0.9	61.0	+4.3	51.2	+5.7	32.4	+5.9	5.9	−8.8	41.2	+1.5
Lakota	8.6	+10.1	11.1	−15.1	23.5	+3.6	37.7	−0.9	53.1	+3.0	59.8	−2.3	70.4	+5.4	62.2	−0.8	58.8	+3.8	50.0	+7.7	27.0	+4.6	− 1.0	−10.6	36.6	+0.7
Lamoine	13.8	.....	0.1	.....	23.4	.....	40.3	.....	52.9	.....	59.2	.....	69.8	.....	62.8	.....	58.3	.....	51.0	.....	30.7	.....	4.8	.....	38.9	.....
Langdon	5.7	.....	10.0	.....	20.9	.....	35.2	.....	53.2	.....	60.3	.....	69.8	.....	61.0	.....	56.8	.....	49.0	.....	24.8	.....	0.8	.....	35.6	.....
Larimore	10.1	+6.8	4.4	−10.1	23.6	+2.4	37.4	−2.7	55.9	+3.2	62.6	0.0	71.8	+5.6	63.8	−0.2	59.2	+4.3	51.9	+7.5	29.5	+5.1	4.1	−7.4	38.8	+1.2
Lisbon	16.5	+11.2	5.0	−4.3	30.1	+2.4	42.0	+0.7	58.2	+5.7	65.6	+2.4	74.2	+6.5	67.2	+1.1	59.4	+1.8	49.9	+5.0	32.8	+3.2	5.4	−9.8	42.2	+2.2
Mellenry	11.6	.....	3.8	.....	24.2	.....	38.2	.....	54.5	.....	62.1	.....	73.4	.....	62.4	.....	58.4	.....	50.8	.....	28.3	.....	4.2	.....	38.7	.....
McKenney	15.8	+12.5	0.4	−4.3	25.4	+6.6	41.6	+1.1	54.5	+2.4	61.2	+0.3	71.2	+5.5	64.0	+0.8	58.4	+4.7	49.4	+7.6	30.4	+7.2	4.9	−6.4	39.8	+3.2
McLeod	16.0	.....	1.4	.....	27.6	.....	42.3	.....	57.2	.....	66.0	.....	72.5	.....	67.0	.....	61.9	.....	.....	.....	.....	.....	11.2	.....	.....	.....
Maudau	17.2	.....	3.6	.....	27.2	.....	42.8	.....	55.2	.....	63.8	.....	73.4	.....	64.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manfred	13.4	+9.5	0.2	−7.8	25.6	+1.4	40.8	0.0	55.2	+4.5	61.8	−0.8	72.5	+6.4	64.2	+0.5	58.2	+2.6	50.0	+6.2	31.0	+3.6	5.4	−7.0	39.8	+1.6
Marmarth	25.2	.....	10.8	.....	28.0	.....	43.0	.....	52.5	.....	63.4	.....	72.1	.....	64.3	.....	.....	.....	.....	.....	35.6	.....	11.8	.....	.....	.....
Marstonmoor	.....	.....	[h] 2.0	.....	.....	.....	.....	.....	.....	.....	60.4	.....	70.7	.....	62.0	.....	58.8	.....	48.7	.....	28.3	.....	3.4	.....	.....	.....
Meyville	14.6	+8.0	1.4	−9.8	27.0	+3.8	41.6	−1.1	58.0	+2.9	65.0	−0.3	74.5	+5.4	66.2	+0.2	62.0	+5.5	53.5	+8.3	32.4	+4.6	4.9	−9.0	41.5	+1.5
Melville	[d]13.8	+7.4	2.2	−5.0	24.2	+1.4	40.6	+0.7	55.0	+2.3	59.4	−3.7	[d]72.8	+5.1	[d]65.8	−0.3	61.0	+4.8	[1]53.2	+9.5	[d]33.0	+5.5	6.8	−5.5	40.6	+1.8
Minot	15.2	+9.4	1.6	−6.7	26.8	+5.6	40.8	−0.7	55.6	+3.3	61.2	−2.1	72.4	+4.4	63.9	+1.7	58.5	+1.5	48.7	+4.3	34.7	+5.9	6.0	−7.7	40.4	+1.6
Minto	10.2	+8.4	5.2	−11.1	26.3	+5.2	39.4	−1.2	56.4	+3.0	63.0	−0.9	72.8	+5.7	64.6	0.0	60.4	+4.0	52.2	+9.0	29.1	+4.6	1.8	−9.1	39.2	+1.5
Mott	19.8	.....	7.1	.....	27.2	.....	44.9	.....	54.4	.....	63.5	.....	74.6	.....	66.6	.....	60.5	.....	50.9	.....	32.4	.....	9.0	.....	42.6	.....
Napoleon	15.4	+9.1	0.6	−6.2	23.8	+2.4	40.6	−0.8	54.1	+1.3	62.5	−2.9	72.8	+4.7	63.9	−2.3	60.8	+3.9	49.6	+7.7	32.4	+7.4	5.6	−7.4	40.2	+1.4
New England	28.8	+14.7	10.6	−1.7	30.5	+6.0	43.2	+0.7	56.0	+4.6	63.7	+1.3	72.9	+4.7	.....	.....	.....	.....	.....	.....	35.8	+7.4	[d] 7.0	−11.5	.....	.....
New Rockford	13.0	.....	0.0	.....	.....	.....	.....	.....	.....	.....	63.6	.....	.....	.....	.....	.....	.....	.....	50.5	.....	.....	.....	5.4	.....	.....	.....
New Salem	18.4	.....	5.0	.....	26.4	.....	42.0	.....	53.7	.....	62.0	.....	71.5	.....	64.3	.....	60.5	.....	49.8	.....	34.4	.....	7.1	.....	41.3	.....
Orange	21.8	.....	7.8	.....	26.1	.....	42.6	.....	53.2	.....	62.6	.....	73.6	.....	65.3	.....	57.4	.....	48.0	.....	33.8	.....	9.6	.....	41.8	.....
Oriska	14.6	.....	1.6	.....	27.0	.....	42.9	.....	57.4	.....	63.9	.....	73.8	.....	64.2	.....	62.6	.....	52.4	.....	32.2	.....	5.2	.....	41.4	.....
Park River	11.0	+9.5	3.5	−9.5	23.0	+0.4	40.2	−1.0	57.6	+5.9	65.0	+0.8	73.4	+6.1	64.0	−1.6	58.3	+0.7	51.8	+7.9	28.6	−0.3	3.6	−9.5	39.4	+0.8
Pembina	2.0	+4.7	10.5	−12.3	13.3	−2.8	37.2	−0.3	58.4	+6.0	64.4	+1.7	72.0	+4.6	61.2	−2.7	58.0	+4.4	49.8	+9.0	25.6	+3.4	− 3.6	−10.2	35.6	+0.5
Power	14.4	+9.5	0.5	−7.9	27.4	−3.8	40.9	−1.3	56.4	+1.9	64.6	+0.3	72.6	+3.9	64.4	−2.1	62.3	+4.0	52.6	+7.5	32.6	+6.6	7.7	−4.8	41.4	+1.8
Steele	17.2	+8.3	4.0	−2.8	30.8	+10.1	45.2	+1.0	56.7	+2.8	64.8	+2.1	75.4	+6.8	65.8	−0.5	61.8	+4.4	53.9	+10.4	34.2	+8.2	10.4	−4.0	43.4	+3.9
Towner	13.4	+9.2	1.0	−6.5	25.2	+9.6	41.6	+0.8	58.0	+4.8	62.0	−0.6	72.6	+6.5	63.4	−0.6	58.3	+3.8	50.6	+7.7	30.3	+9.3	4.6	−7.8	39.9	+3.0
Turtle Lake	16.4	.....	2.7	.....	26.4	.....	42.2	.....	54.5	.....	61.9	.....	71.6	.....	64.6	.....	59.8	.....	45.6	.....	25.6	.....	[f] 3.8	.....	39.6	.....
University	10.6	+6.6	5.4	−12.7	24.9	+2.1	38.6	−3.3	55.8	+2.1	62.8	−0.6	71.4	+4.2	62.8	−2.0	60.0	+4.0	51.7	+7.7	28.4	+3.1	3.3	−8.0	38.7	+0.3
Walhalla	14.0	+6.0	0.4	−10.8	24.8	−2.0	39.3	−5.1	56.8	+1.0	63.3	−2.3	72.0	+2.8	65.5	−1.9	61.1	+2.4	51.8	+5.0	33.6	+6.8	9.6	−5.9	41.0	−0.3
Walhalla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[d]65.4	.....	[d]61.4	.....	53.4	.....	30.1	.....	1.0	.....	.....	.....
Washburn	19.1	+11.4	7.4	−2.3	27.2	+1.7	44.4	−0.1	56.4	+2.9	63.8	−0.3	74.1	+5.6	.....	.....	.....	.....	.....	.....	34.1	+7.1	8.7	−5.7	.....	.....
Westhope	8.5	.....	.....	.....	.....	.....	.....	.....	54.7	.....	61.0	.....	70.0	.....	63.4	.....	58.6	.....	47.5	.....	27.6	.....	3.7	.....	.....	.....
Williston	17.4	+10.9	4.4	−3.5	27.4	+5.8	42.8	+2.3	54.6	+0.3	62.2	−1.3	73.2	+3.8	64.1	−3.8	58.6	−0.9	48.8	+5.9	32.9	+7.7	6.7	−6.9	41.1	+1.7
Willow City	9.4	+8.5	5.1	−8.5	23.8	+5.7	38.2	−2.0	53.6	+1.7	59.6	−2.2	70.1	+4.7	62.5	−1.3	55.8	+1.4	46.0	+3.8	20.8	0.0	− 0.8	−10.5	36.2	+0.1
Zap	18.0	.....	5.4	.....	26.6	.....	42.0	.....	54.0	.....	60.6	.....	71.2	.....	65.0	.....	58.5	.....	48.5	.....	33.6	.....	6.7	.....	40.8	.....
Moorhead, Minn.	14.1	+11.4	0.4	−6.6	26.5	+5.1	40.2	−1.2	57.4	+2.6	64.8	+0.5	73.1	+4.4	65.0	−0.9	60.6	+4.0	52.8	+10.0	31.2	+6.8	7.6	−3.1	41.1	+2.8

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1914, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Amenia	48	7	40	25	62	14	75	13	89	25	86	* 2	100	27	[b]95	15	91	*18	85	* 1	.....	.....	.....	.....
Aplin	[a]56	7	49	27	62	14	78	15	86	30	[a]87	2	99	26	[a]95	* 7	[b]93	18	[i]88	2	[i]73	1	[i]39	31
Ashley	50	19	46	27	65	13	77	13	84	30	85	18	104	26	100	15	95	18	82	2	66	1	50	3
Beach	57	7	42	*16	64	14	80	15	87	27	93	2	105	20	100	3	95	18	85	* 1	65	25	48	2
Berthold Agency	55	7	[a]53	27	67	13	79	15	86	30	87	2	[a]100	*20	[a]96	* 3	92	18	[b]86	* 3	67	* 1	49	2
Bismarck	56	7	52	27	71	13	76	23	87	30	84	2	98	26	97	15	95	18	89	1	67	1	44	2
Bottineau	48	7	40	27	46	14	70	* 4	84	30	89	2	102	26	99	4	90	18	87	3	60	* 1	36	3
Bowbells	50	4	.....	.....	.....	.....	73	15	86	23	89	2	101	26	95	4	90	18	87	1	68	2	41	4
Bowman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	98	7	.....	.....	86	* 1	68	5	46	3
Buford	53	5	50	27	66	14	78	15	85	30	90	2	100	27	101	3	92	18	84	1	66	25	40	3
Cando	[d]47	8	46	28	[c]55	15	70	15	[l]85	*27	[c]86	2	[e]100	27	[j]98	4	[c]90	20	[c]97	2	[e]83	2	[a]31	31
Carson	57	7	51	27	76	15	76	15	86	30	82	2	95	25	94	15	92	18	86	2	69	25	45	3
Crosby	49	5	42	27	56	14	[c]75	15	84	27	90	2	[c]98	*26	[c]97	3	.....	.....	.....	.....	64	1	.....	.....
Devils Lake	44	7	47	27	53	14	69	20	83	30	85	2	96	27	94	4	89	18	89	1	63	2	32	31
Dickinson	58	7	47	27	65	13	77	15	85	*24	86	2	100	20	93	7	94	18	86	1	66	* 1	47	3
Donnybrook	[a]48	5	46	27	[a]59	14	74	15	[c]85	*24	[c]89	2	95	27	[a]91	* 3	[b]90	18	[b]84	17	.....	.....	[c]34	31
Dunseith	.....	.....	40	27	[a]48	14	68	15	81	*27	87	2	97	27	95	4	97	18	84	* 2	[a]60	2	41	3
Eckman	.....	.....	54	18	60	14	73	16	87	30	91	2	99	*26	97	4	[a]92	18	87	3	[a]66	2	41	* 2
Edgeley	55	7	45	*26	65	13	74	13	86	30	88	23	99	25	96	15	93	18	87	1	67	2	44	4
Fessenden	51	7	48	26	64	13	75	*14	84	30	84	2	97	27	94	* 3	90	18	91	2	64	* 1	47	5
Forman	49	7	48	26	[a]64	13	[a]82	13	85	24	83	23	99	26	99	4	[a]92	18	87	* 1	59	* 1	[d]42	* 3
Fullerton	54	7	45	26	64	13	75	23	83	30	86	8	98	*25	97	15	89	*19	84	* 1	66	2	46	* 3
Garrison	53	7	51	27	64	14	80	24	83	30	84	2	100	26	94	15	90	18	86	2	65	25	48	3
Goodall	.....	.....	.....	.....	.....	.....	.....	.....	[d]84	24	88	6	98	*26	.....	.....	89	17	85	* 2	[a]65	1	41	3
Grafton	44	7	42	27	55	13	70	16	88	29	91	2	[a]96	9	94	3	93	20	[c]91	1	65	2	30	5
Granville	54	18	48	27	64	15	74	22	84	*24	87	2	99	25	90	* 9	92	17	89	* 2	55	3	45	2
Haley	.....	.....	53	17	.....	.....	78	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hannah	37	6	36	27	45	13	*67	20	81	*17	85	2	96	*26	101	3	92	19	84	1	[b]51	1	26	3
Hansboro	40	* 6	43	27	.....	.....	.....	.....	85	27	[d]88	2	107	26	[a]100	3	90	*19	91	2	[b]74	1	34	6
Hettinger	62	*16	47	16	65	*13	[b]77	14	88	31	.....	.....	100	*21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hillsboro	46	7	46	27	57	13	69	13	83	27	85	2	94	9	92	15	92	20	88	1	64	2	40	4
Howard	48	7	40	27	57	14	75	15	81	16	90	2	97	37	97	3	90	18	84	1	62	25	39	2
Jamestown	48	8	46	27	59	13	75	25	91	28	88	2	100	9	98	3	94	18	89	1	70	2	40	* 3
Lakota	[a]44	7	[a]20	16	52	13	68	16	83	30	85	2	[c]94	27	93	3	93	20	89	* 1	64	2	28	* 8
Lamoine	50	7	44	27	59	13	73	23	83	*25	83	2	93	*20	90	3	92	18	88	* 1	64	2	43	* 3
Langdon	39	8	40	28	43	*13	66	16	84	28	89	2	95	27	95	4	90	19	88	. 1	62	2	31	4
Larimore	45	7	51	27	59	16	70	16	83	25	84	* 1	95	9	95	4	90	*19	89	1	64	2	33	3
Lisbon	53	7	42	26	60	13	75	*13	89	25	87	* 8	101	15	101	15	93	18	86	* 1	56	9	[a]44	4
McHenry	41	15	44	27	55	13	70	20	85	27	86	2	98	27	93	4	91	20	88	1	64	2	33	31
McKinney	58	6	44	27	61	14	75	*14	95	24	91	2	100	*20	[d]99	* 3	92	17	90	* 1	67	2	35	* 2
McLeod	54	7	48	26	62	13	74	17	84	25	83	23	96	20	94	15	93	19	.....	.....	70	2	51	4
Mandan	51	15	[a]50	27	70	13	76	15	85	30	[a]85	2	[a]99	20	[a]96	15	.....	.....	.....	.....	.....	.....	.....	.....
Manfred	50	7	49	27	60	14	73	*15	86	27	86	2	100	27	93	* 3	88	18	88	1	64	2	44	5
Marmarth	56	7	45	16	63	*13	76	15	82	*24	85	2	101	26	[a]97	3	[f]96	18	.....	.....	67	25	51	3
Marstonmoor	.....	.....	42	27	.....	.....	.....	.....	.....	.....	83	2	95	* 9	93	15	96	18	90	2	65	* 1	47	5
Mayville	47	7	48	27	58	*13	70	*13	88	27	86	7	101	* 9	96	*16	93	*18	88	1	67	2	39	4
Melville	[d]52	7	45	*26	[c]58	*13	[c]70	*20	83	27	[c]85	* 8	[d]102	* 9	[d]97	* 1	[c]98	18	92	2	[d]70	1	[b]42	7
Minot	56	7	42	26	76	13	80	14	95	30	[e]89	2	99	26	98	15	92	18	89	2	69	2	42	2
Minto	[a]44	7	45	27	56	13	72	16	86	22	88	2	98	27	96	4	92	20	[a]89	1	64	3	[a]31	5
Mott	58	7	56	16	68	13	77	15	88	30	89	2	101	26	95	* 3	95	18	86	16	67	28	57	3
Napoleon	52	8	46	27	67	13	76	13	85	*24	86	10	109	26	100	*15	98	18	90	2	72	2	47	* 2
New England	60	* 1	57	28	67	12	[a]80	15	87	31	88	17	100	*20	.....	.....	.....	.....	.....	.....	65	26	[d]37	6
New Rockford	47	7	48	26	.....	.....	.....	.....	.....	.....	84	* 2	.....	.....	.....	.....	.....	.....	85	18	.....	.....	32	5
New Salem	57	7	50	28	68	13	76	15	87	30	86	2	97	26	97	15	95	18	88	2	76	*23	43	* 2
Orange	56	7	48	28	67	13	76	15	88	30	89	25	106	26	101	7	88	16	85	16	68	26	38	31
Oriska	50	* 7	48	27	62	13	78	13	91	27	89	10	98	* 9	96	15	93	19	85	2	[b]77	1	45	5
Park River	45	7	45	27	55	13	76	11	95	27	93	2	95	27	97	21	91	*19	89	2	65	2	31	3
Penubina	32	* 6	50	26	40	30	70	*15	91	27	93	2	102	27	98	4	92	19	89	1	64	1	34	1
Power	54	7	51	26	63	13	[b]75	13	[b]87	26	[d]84	23	94	*11	94	15	[a]91	18	[a]86	2	69	1	[a]42	4
Steele	52	7	44	27	64	13	72	*15	84	30	84	9	100	26	94	15	96	18	90	2	75	1	50	3
Towner	46	* 5	47	27	59	14	71	14	84	*27	87	2	100	*26	[a]95	4	89	18	88	4	64	2	42	2
Turtle Lake	55	7	50	27	63	14	84	26	83	30	85	2	100	26	[b]95	15	89	18	86	* 1	65	1	[f]45	3
University	45	7	46	27	55	13	70	16	85	25	86	2	95	9	93	4	92	19	88	1	63	2	37	4
Wahpeton	[a]47	7	49	28	61	13	75	13	87	26	84	7	100	27	92	15	87	*19	83	18	66	2	50	20
Walhalla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[c]94	3	[d]90	20	91	2	66	2	26	3
Washburn	52	6	52	27	65	17	[a]78	15	86	30	86	3	97	*27	.....	.....	.....	.....	.....	.....	[b]66	1	[b]45	3
Westhope	48	8	.....	.....	.....	.....	.....	.....	88	30	90	2	99	*26	[a]98	4	91	18	88	1	63	2	37	2
Williston	50	7	51	27	65	14	77	15	85	27	89	2	98	27	99	3	91	18	83	17	62	2	40	3
Willow City	43	* 7	43	27	54	14	71	15	84	*27	88	2	103	26	96	4	92	18	86	3	62	2	36	3
Zap	55	7	50	27	67	13	76	15	85	30	85	2	98	26	94	* 7	90	18	85	* 2	68	25	44	* 2
Moorhead, Minn	44	7	48	27	60	13	71	17	88	25	85	7	95	27	93	15	88	19	86	1	64	2	42	4

* Occurred on other dates also.

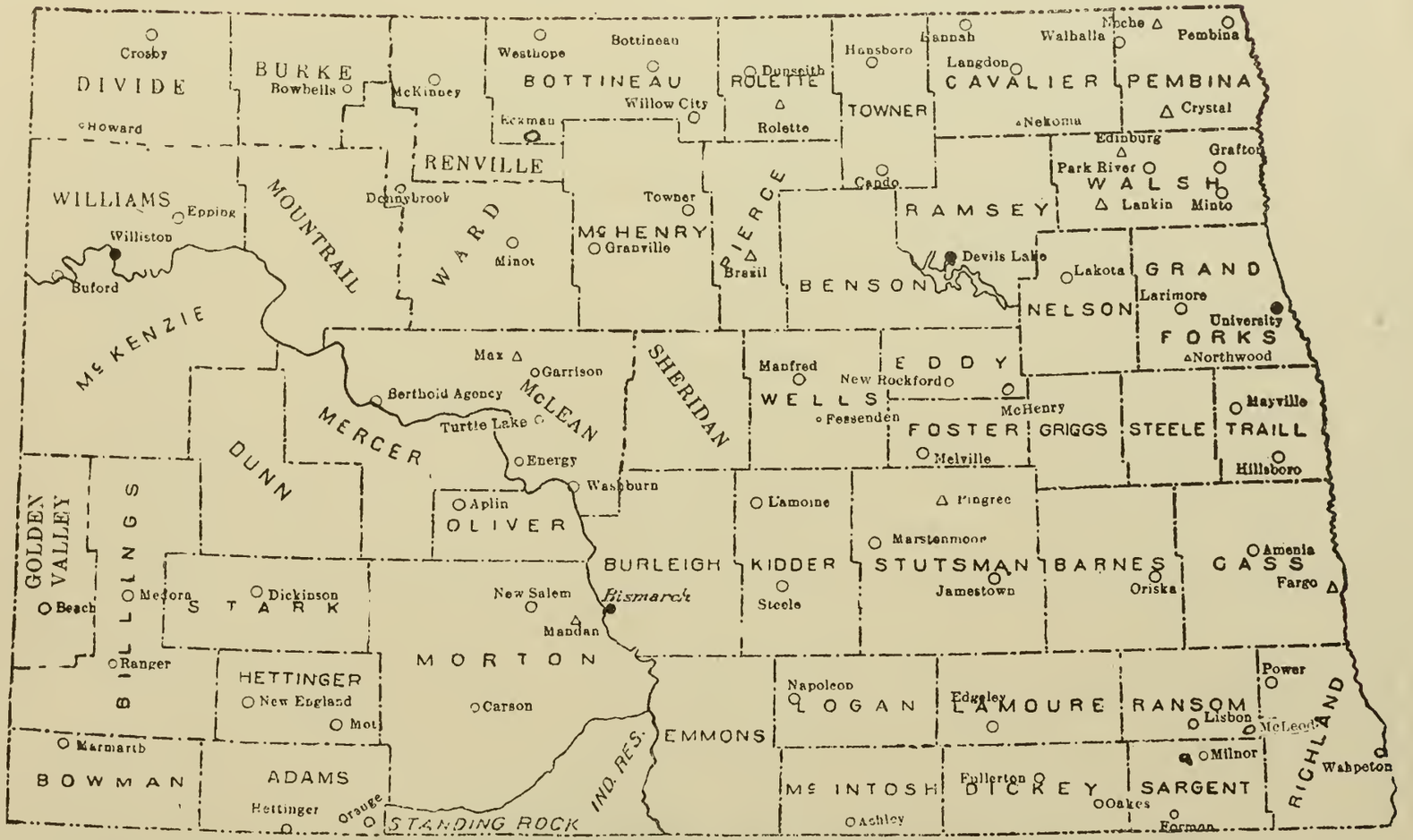
[a] indicates 1 day missing, [b] 2 days, etc.

Monthly Minimum Temperatures for the Year 1914, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Amenia	−19	31	−36	7	− 4	26	14	11	28	12	38	19	45	1	35	26	32	25	18	27	.....	.....	.....	.....
Aplin	a−20	*12	−35	6	a−20	26	7	8	20	12	a40	25	46	*17	a28	26	b30	* 3	i15	26	i−12	19	k−33	25
Ashley	−20	*12	−27	6	− 1	* 1	14	8	27	12	39	19	41	23	32	26	32	22	21	27	−13	18	−30	25
Beach	c−17	29	−36	6	−12	26	10	8	25	13	38	15	40	17	34	26	32	* 3	20	29	0	19	−25	16
Berthold Agency	−25	24	a−39	7	−20	26	7	7	19	12	39	16	a42	17	a29	26	30	* 3	14	26	10	19	−36	*16
Bismarck	−14	29	−32	7	−10	27	12	7	27	12	40	19	49	19	33	26	33	29	21	26	− 9	19	−30	25
Bottineau	−32	24	−36	7	−10	1	7	7	23	14	40	*19	41	17	34	26	28	22	15	26	−24	17	−34	25
Bowbells	−32	25	l−35	4	.....	.....	5	7	25	12	40	19	41	17	32	26	27	22	15	27	−19	*16	−38	25
Bowman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	e34	26	.....	.....	23	29	− 1	19	−26	16
Buford	−23	24	−39	6	−17	26	13	8	25	12	42	*10	44	17	35	26	35	16	19	29	4	*17	−27	25
Cando	d−32	24	−40	* 7	d−11	*11	7	7	l19	14	e33	19	e40	22	j32	26	d31	*22	e15	26	e−23	17	a−33	25
Carson	−12	29	−34	* 6	−12	26	5	8	22	12	42	19	42	19	26	26	28	3	18	*26	−12	19	−32	*16
Crosby	−29	24	−36	6	−15	26	e 9	7	25	12	41	23	c45	22	e34	26	.....	.....	.....	.....	−13	19	.....	.....
Devils Lake	−22	24	−33	6	− 9	26	8	7	30	14	38	19	48	17	35	26	33	22	19	26	−14	19	−27	25
Dickinson	−16	29	−39	6	−14	26	8	8	23	12	40	*10	43	31	31	26	30	22	19	26	− 8	19	−29	16
Donnybrook	a−29	24	−34	6	a−14	26	7	7	e22	*12	e34	20	a41	17	31	26	d28	22	b10	26	.....	.....	a−35	25
Dunseith	.....	.....	−40	6	b−15	1	2	7	22	14	39	19	42	22	35	26	30	22	15	*26	a−23	17	−28	25
Eckman	.....	.....	−39	7	−15	*26	8	* 7	20	12	35	19	40	17	30	26	a26	22	8	26	−24	17	−38	25
Edgeley	−14	12	−27	6	− 7	* 1	15	* 7	28	12	35	19	43	23	33	26	31	25	19	27	−12	19	−32	25
Fessenden	−22	24	−32	* 6	−15	26	10	* 7	21	12	33	19	43	23	33	26	31	*22	18	26	−16	19	−38	25
Forman	−18	12	−31	7	a−15	11	a13	11	26	12	42	* 1	46	23	33	26	a33	25	16	27	−10	19	d−33	25
Fullerton	−13	12	−35	7	− 7	11	15	11	28	12	36	19	46	23	34	26	31	24	16	27	−12	19	−30	25
Garrison	−23	24	−36	7	−16	26	9	7	21	12	37	19	44	17	30	26	28	22	14	26	−14	19	−33	25
Goodall	.....	.....	.....	.....	.....	.....	.....	.....	d25	*12	41	19	43	17	.....	.....	31	22	15	26	a− 9	19	−28	25
Grafton	−26	25	−47	11	−13	1	10	11	24	14	36	19	a46	19	36	*24	30	* 4	e16	26	−17	17	−32	25
Granville	−24	*24	−30	7	−12	26	15	7	25	12	34	18	48	12	33	25	30	22	27	6	−22	17	−32	24
Haley	.....	.....	−38	8	.....	.....	10	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hannah	−35	24	−47	11	−19	1	a 2	7	17	14	29	19	41	17	27	26	25	24	10	26	b25	*17	−33	24
Hansboro	−27	25	−41	11	.....	.....	.....	.....	21	14	34	27	42	22	a33	*14	30	*22	14	26	b−20	17	−32	24
Hettinger	−14	25	−29	6	−10	26	10	7	22	13	.....	.....	42	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hillsboro	−17	12	−37	11	− 9	1	13	11	27	12	38	18	51	*17	37	27	31	25	19	26	−10	17	−26	25
Howard	−29	24	−39	6	−19	26	11	7	23	12	37	*11	36	9	30	26	28	14	13	26	−11	*17	−26	16
Jamestown	−15	30	−34	8	−12	11	16	7	26	12	37	19	40	1	36	26	35	*22	22	27	−10	*19	−24	25
Lakota	a−25	11	g−40	11	−10	11	9	7	19	14	32	1	c44	23	34	*11	29	25	18	26	−16	17	−35	25
Lamoine	−20	24	−38	6	−17	26	8	8	22	12	34	19	45	23	28	26	25	22	e14	27	−20	19	−31	25
Langdon	−28	24	−43	11	−19	1	3	11	20	*12	36	19	43	1	32	26	29	24	12	26	−23	18	−34	24
Larimore	−21	25	−37	*11	−10	1	12	11	25	14	40	19	48	23	36	26	33	* 4	18	26	− 9	19	−29	24
Lisbon	−18	12	−30	* 7	−14	11	12	11	29	* 8	37	19	45	23	34	26	29	* 4	24	*19	10	*18	−36	25
McHenry	−23	24	−36	7	−15	11	10	7	25	*12	35	18	47	22	32	26	33	*22	19	*26	−15	19	−32	25
McKinney	−28	*25	−34	5	−13	26	7	8	19	12	35	19	40	22	d29	26	25	22	5	27	−22	17	−42	25
McLeod	−20	29	−34	7	−12	11	13	11	16	16	41	*19	44	23	35	25	33	* 4	.....	.....	− 5	17	−31	25
Mandan	−14	29	−33	7	a−12	26	12	* 7	26	12	39	19	49	19	32	26	.....	.....	.....	.....	.....	.....	.....	.....
Manfred	−30	22	−35	7	−15	*11	10	7	22	12	33	19	43	23	23	26	32	22	16	26	−15	19	−35	25
Marmarth	−12	29	a−31	6	−10	26	12	8	23	12	41	* 7	43	17	b35	26	33	*14	a21	12	− 1	16	−28	16
Marstonmoor	.....	.....	g−45	6	.....	.....	.....	.....	.....	.....	34	19	36	23	26	26	26	29	16	27	h−20	19	a−41	25
Maxyville	−17	12	−39	11	− 9	1	12	11	25	12	36	19	46	*22	36	26	29	25	20	26	−10	17	−28	25
Melville	d−22	24	−32	6	e−17	26	e 9	11	23	*12	e34	19	d48	* 1	e32	26	e32	* 3	l16	26	d−14	19	b−34	25
Minot	−29	25	−36	7	−11	26	10	* 7	23	12	39	19	41	17	31	26	29	22	16	26	1	15	−41	25
Minto	e−20	*12	−43	12	− 1	21	11	11	23	14	35	19	47	23	37	26	30	* 4	17	26	−16	17	a−32	24
Mott	−14	29	−35	6	−14	26	7	7	25	*12	39	19	44	17	25	25	30	21	18	28	−12	19	−36	16
Napoleon	−17	22	−36	6	−15	26	8	8	22	12	36	19	41	23	26	26	26	22	17	27	−16	19	−35	25
New England	−11	29	−35	6	−13	21	a 8	8	24	12	41	13	46	18	.....	.....	.....	.....	.....	.....	b−17	19	d−35	16
New Rockford	−22	24	−32	* 6	.....	.....	.....	.....	.....	.....	35	19	.....	.....	.....	.....	.....	.....	10	29	.....	.....	−33	24
New Salem	−17	24	−34	6	−15	26	9	7	25	12	37	19	46	17	13	26	32	* 3	17	28	−12	19	−30	16
Orange	− 8	29	−32	6	−10	26	6	8	25	12	35	12	45	17	30	26	30	* 3	21	11	−11	19	−30	16
Oriska	−16	12	−29	* 7	−10	27	15	* 7	27	14	34	19	48	* 2	36	26	32	25	20	26	b−15	17	−32	25
Park River	−21	*12	−41	12	−14	2	6	11	27	*10	35	18	48	16	37	26	35	4	17	26	−16	17	−28	24
Pembina	−22	21	−46	11	−20	10	10	* 7	26	10	34	19	48	* 7	36	*24	31	24	10	26	−18	19	−32	21
Power	−17	12	−32	* 7	−11	1	b11	8	l28	12	d38	19	51	23	35	26	a30	25	a15	27	−18	17	−35	25
Steele	−16	29	−33	6	5	11	23	10	31	*11	40	19	53	17	44	26	34	22	17	26	−10	19	−36	25
Towner	−29	24	−37	7	−19	21	10	7	22	12	34	19	45	*17	a32	26	28	22	15	26	−21	19	−35	25
Turtle Lake	−21	24	−35	6	−12	*21	10	7	23	12	35	19	45	17	b32	26	32	*14	0	26	−27	19	f−37	14
University	−21	24	−40	*11	−10	1	13	11	25	12	38	19	49	17	39	*11	32	25	19	26	−11	17	−28	*24
Wahpeton	−18	26	−31	7	−13	1	13	11	26	12	39	19	47	19	36	26	33	25	18	27	− 6	*17	−35	25
Walhalla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	d32	24	d30	* 9	11	26	−20	19	−32	23
Washburn	−19	24	−34	6	− 2	28	a12	7	23	11	41	19	47	18	.....	.....	.....	.....	.....	.....	h− 8	19	−28	25
Westhope	−32	24	.....	.....	.....	.....	.....	.....	25	14	37	19	40	22	a31	26	26	22	6	25	−30	16	−36	25
Williston	−24	24	−34	6	−15	26	12	7	23	12	42	10	46	17	33	26	35	3	17	26	− 7	17	−30	25
Willow City	a−38	24	−45	7	−15	26	8	7	21	12	33	19	37	21	30	26	26	29	11	26	−28	16	−35	20
Zap	−19	*24	−38	* 6	−20	26	7	8	23	12	37	19	42	17	31	26	30	22	17	26	−10	19	−31	16
Moorhead, Minn.	−15	12	−30	7	−10	1	14	11	28	12	41	19	51	23	39	26	33	25	21	27	− 6	17	−27	25

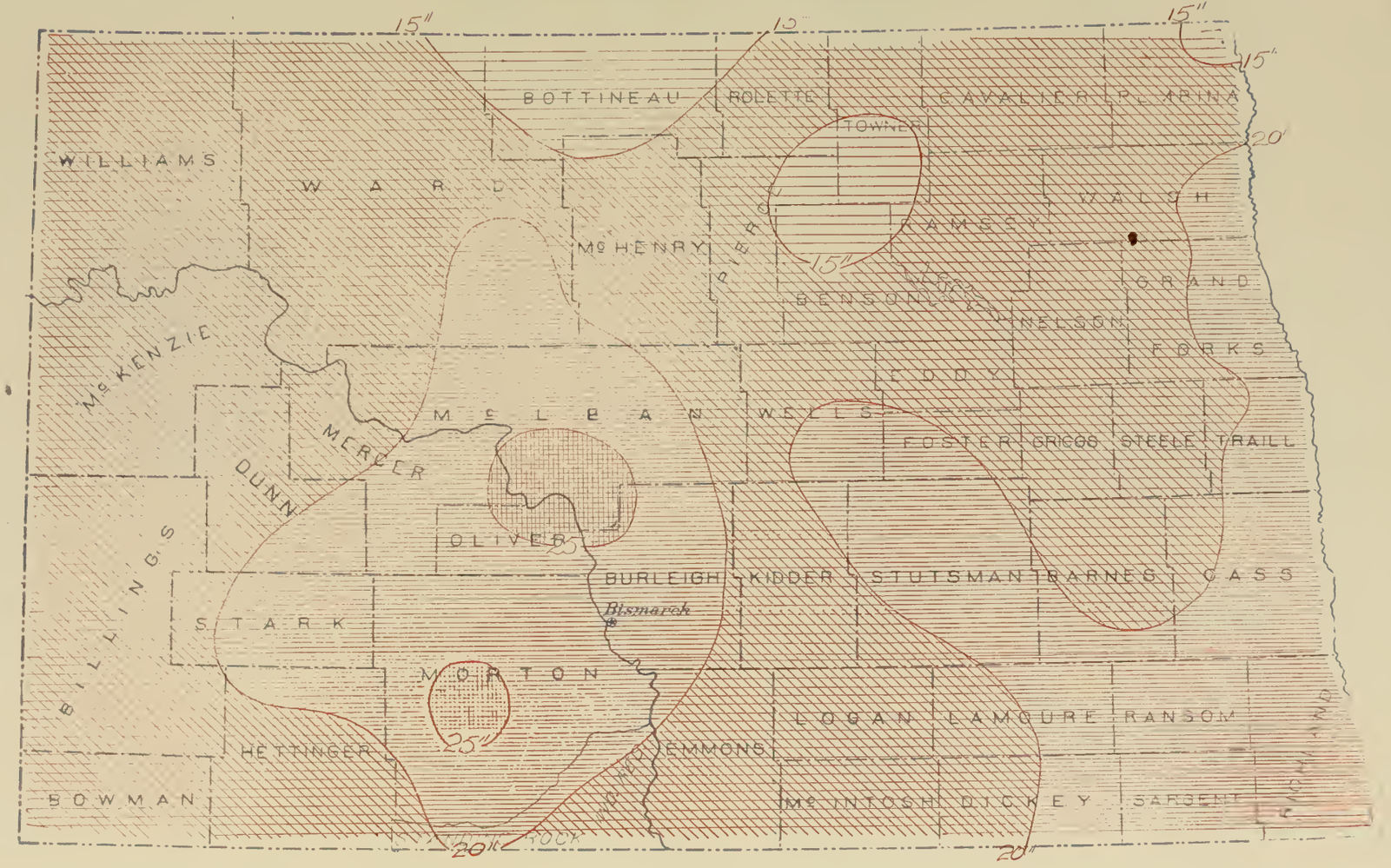
* Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days missing, etc.



Key to Symbols; ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

TOTAL PRECIPITATION FOR THE YEAR 1914.



Scale of Shades, in inches:

Less than 10 | 10 to 15 | 15 to 20 | 20 to 25 | More than 25

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Amenia	E. T. Carley.	Epping	M. E. Uggen.	McHenry	P. E. Truden.	New Salem	J. Christiansen.
Aplin	J. C. Hagelbarger.	Fessenden	G. T. Seymour.	McKinney	N. P. Swenson.	Orange	J. E. Goforth.
Ashley	R. C. Miles.	Forman	A. Maltby.	McLeod	E. W Griggs.	Oriska	J. J. Taylor.
Beach	D. J. Steiner.	Fullerton	F. O. Alin.	Maddock	W. M. Jackson.	Park River	G. M. Hargrave.
Berthold Agency	Chas. L. Hall.	Garrison	G. L. Robinson.	Mandan	N. G. P. F. Sta.	Pembina	C. W. Shumaker.
Bottineau	H. F. Steinmeier.	Goodall	C. H. Layman.	Manfred	P. B. Anderson.	Power	J. A. Power.
Bowbells	G. H. Phelps.	Grafton	A. R. F. Wylie.	Manning	A. J. Bretzlaff.	Powers Lake	Chas. Frank.
Bowman	L. S. Diehl.	Granville	W. A. Christianson.	Marmarth	S. P. Grane.	Ranger	C. M. Hubbard.
Buford	C. H. McCune.	Hannah	J. Moffatt.	Marstonmoor	H. H. McCumber.	Steele	H S. Wood.
Cando	E. T. Judd.	Hansboro	C. E. Blackorby.	Mayville	W. C. Gould.	Towner	B. Bagley.
Carson	D. L. Basquin.	Hettinger	W. R. Lanxon.	Medora	L H. Moore.	Turtle Lake	E. J. Jones.
Colgate	H. P. Rice.	Hillsboro	F. E. Mayall.	Melville	J. P. Kidder.	University	H. E. Simpson.
Crosby	H. G. Anderson.	Howard	C. P. Amsbaugh.	Milnor	Hj. Edman.	Wahpeton	F. E. Smith.
Dickinson	L. R. Waldron.	Jamestown	Thos. Pettigrew.	Minot	B L. Faris.	Walhalla	I. Del. Lee.
Donnybrook	Geo. Mitchell.	Lakota	C. R. Pettes.	Minto	S. S. Marsh.	Washburn	A. Wacker.
Dunseith	C. E. Goodsell.	Lamoine	E. V. Virgin.	Mott	O. H. Opland.	Westhope	C. M Condit.
Eckman	J. Nussbaum.	Langdon	R. T. Burke.	New England	J. M. Connolly.	Willow City	M. A. Ostby.
Edgeley	O. A. Thompson.	Larimore	G. G Graham.	New Rockford	H. H. Maxwell.	Zap	H. A. Crandall.
Energy	N. W. Solenberger.	Lisbon	W. S. Adams.				

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Crystal*	Postmaster.	Fullerton ‖	F. O. Alin.	Mandan ‖	Mandan Tel. Co.	Rugby ‖	Postmaster.
Eckman*	Postmaster.	Grafton* ‖	Postmaster.	Marion‖	Postmaster.	University‖‡	H. E. Simpson.
Edgeley †‖	Postmaster.	Grand Forks ‖	R. B. Griffith Co.	Minot† ‖	Postmaster.	Wahpeton ‖	Postmaster.
Edinburg ‖	Postmaster.	Langdon ‡	R. T. Burke.	Neche* ‖	Postmaster.	Bismarck†‖	U. S. Weather Bur.
Englevale*‖	Postmaster.	Lankin* ‖	Postmaster.	Northwood‖§	G. P. Johnson.	Devils Lake†‖§	U. S. Weather Bur.
Fargo ‖	Postmaster.	Lisbon ‖§	Postmaster.	Oakes†‖	Postmaster.	Williston†‖§	U. S. Weather Bur.

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags. ‡ By wireless telegraph.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

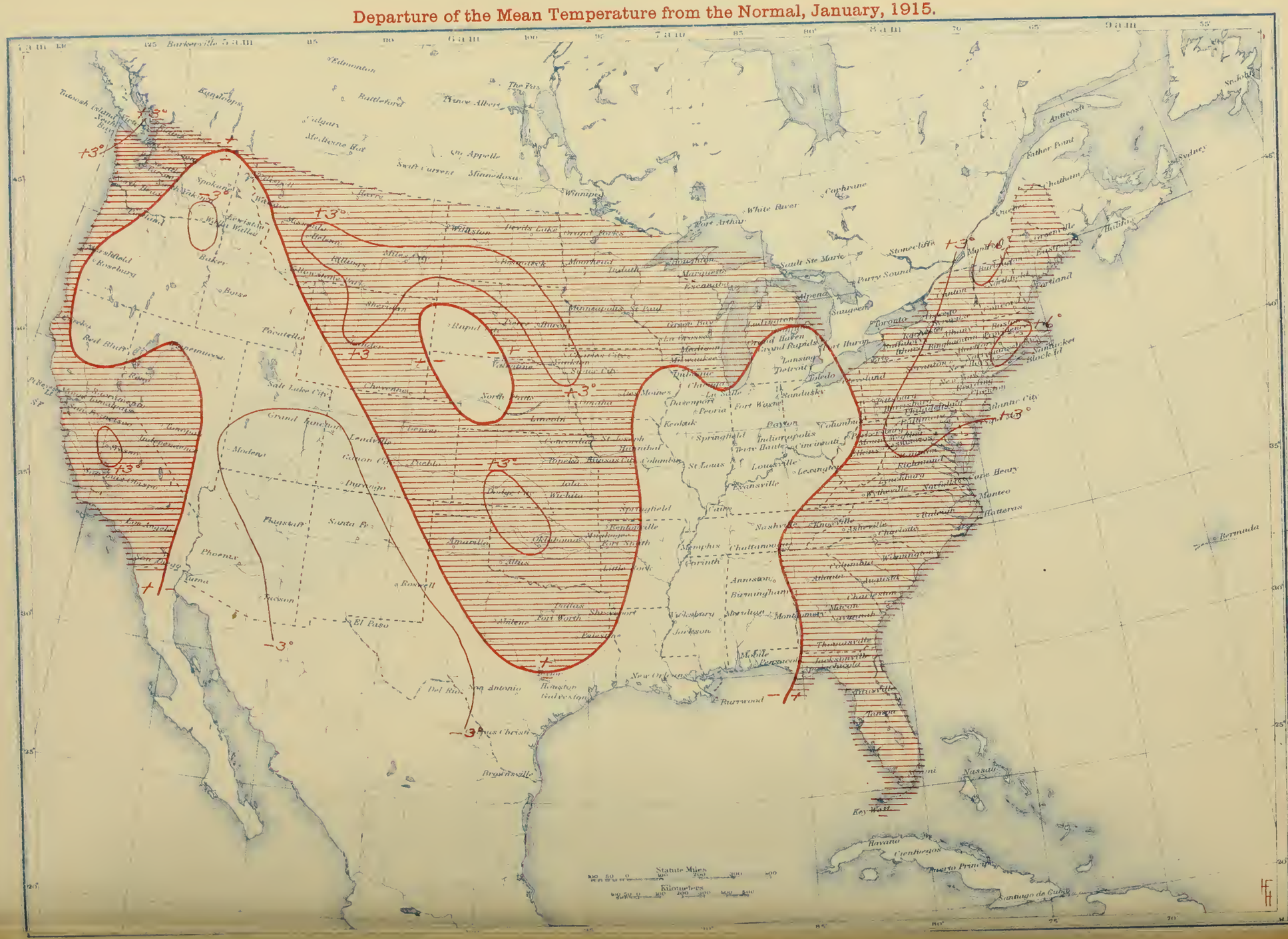
JANUARY, 1915

BY

ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 26, 1915.

Departure of the Mean Temperature from the Normal, January, 1915.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., JANUARY, 1915. No. 1.

GENERAL SUMMARY.

The weather for the month was mild and favorable for live-stock on the range and for outdoor work. The month opened with temperature considerably above the normal, a condition that continued during the first two decades. During the last decade the temperature was decidedly below the normal, but not sufficiently to overcome the accumulation of the former period. The precipitation was below the normal. There was much cloudiness, and the wind movement was below the normal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.07 inches. The highest was 30.68 inches at Bismarck, Burleigh County, on the 27th; the lowest was 29.09 inches at Devils Lake, Ramsey County, on the 13th.

TEMPERATURE.

The mean temperature for the State was 5.8°, or 0.6° above the normal, and 9.0° lower than the mean for January, 1914. The highest monthly mean reported was 13.1° at Marmarth, Billings County; the lowest was −1.9° at Willow City, Bottineau County. The highest temperature reported was 51° at McLeod, Ransom County, on the 4th; the lowest was −48° at Langdon, Cavalier County, on the 27th. Usually the highest temperature occurred on the 4th, 5th or 12th, and the lowest on the 27th. The greatest monthly range of temperature was 86° at Minot, Ward County; the least was 65° at Park River, Walsh County. The greatest daily range was 49° at McLeod, Ransom County, on the 1st. The distribution of temperature was quite uniform geographically, but not throughout the month. The first decade was the warmest, and the last the coldest. During the past twenty-five years there have been nine warmer and fifteen colder Januarys than in 1915.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of five recording stations, was 86 per cent.

PRECIPITATION.

The average precipitation for the State was 0.29 inch, or 0.20 inch below the normal, and 0.21 inch lower than the average for January, 1914. The greatest monthly amount reported was 1.25 inches at Forman, Sargent County; there was none at Bowbells, Burke County, or New England, Hettinger County. The greatest amount recorded in any twenty-four consecutive hours was 1.20 inches at Forman, Sargent County, on the 15th. The average number of days with 0.01 inch or more of precipitation was three. Practically all of the precipitation occurred in the form of snow, the average fall for the State being 3.4 inches. There were but two stormy periods, the 5-6th, and from the 13th to the 19th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.0 miles. The greatest wind movement was 6,831 miles at Bismarck, an average of 9.2 miles per hour; the least was 4,014 miles at Williston, an average of 5.4 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 35 miles per hour from the northwest at Devils Lake on the 19th, considering only the reports of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 12, partly cloudy 9, and cloudy 10.

ERRATA, DECEMBER, 1914.

Page 92: Colgate, greatest 24-hour precipitation should be 0.25 inch; Fessenden, monthly mean should be 4.5°; Howard, lowest temperature and date should be −26° on the 16th; Mott, greatest 24-hour precipitation should be 0.27 inch; Ranger, number of days with 0.01 inch or more precipitaton should be 3.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	3.3	−2.3	58	−52	0.79	+0.30
1893	0.8	−4.4	49	−48	0.98	+0.49
1894	0.6	−4.6	71	−60	0.39	−0.10
1895	−2.9	−8.1	42	−46	0.56	+0.07
1896	5.3	+0.1	58	−42	0.70	+0.21
1897	3.6	−1.6	49	−38	0.79	+0.30
1898	14.6	+9.4	69	−32	0.11	−0.38
1899	5.2	0.0	55	−41	0.25	−0.24
1900	15.4	+10.2	70	−30	0.22	−0.27
1901	7.7	+2.5	68	−39	0.28	−0.21
1902	12.7	+7.5	51	−40	0.14	−0.35
1903	9.4	+4.2	56	−37	0.66	+0.17
1904	3.6	−1.6	50	−52	0.37	−0.12
1905	0.9	−4.3	48	−40	0.30	−0.19
1906	12.2	+7.0	60	−38	0.69	+0.20
1907	−6.2	−11.4	45	−45	1.40	+0.91
1908	17.0	+11.8	70	−38	0.18	−0.31
1909	3.5	−1.7	53	−48	0.42	−0.07
1910	9.4	+4.2	49	−35	0.33	−0.16
1911	−1.0	−6.2	56	−43	0.91	+0.42
1912	−4.6	−9.8	63	−52	0.35	−0.14
1913	3.2	−2.0	60	−54	0.45	−0.04
1914	14.8	+9.6	62	−38	0.50	+0.01
1915	5.8	+0.6	51	−48	0.29	−0.20

Climatological Data for January, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Amenia	Cass	954	19	- 1.0	−6.3	42[k]	11	−34[k]	27	38[l]	0.21	−0.24	0.09	2.1	4	.....	.....	.....	.....	E. T. Carley
Aplin	Oliver	.....	8	10.0	.....	38[a]	† 4	−39[a]	27	39	0.12	.....	0.05	1.2	3	11	9	10	nw.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	7.0	−0.7	36	9	−37	27	36	1.00	+0.54	0.40	10.0	5	14	8	9	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	11.4	.....	46	3	−36	28	35	0.23	.....	0.15	6.0	2	20	8	3	nw.	D. J. Steiner
Berthold Agency	McLean	2,082	21	10.0	+3.3	41	5	−43	27	44	0.10	−0.31	0.10	1.0	1	11	2	18	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	9.2	+2.5	40	12	−35	27	35	0.08	−0.46	0.04	1.7	5	7	9	15	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	23	0.5	+0.6	37	12	−44	27	42	0.09	−0.35	0.03	.....	6	6	11	14	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	5.8	.....	38	12	−41	26	33	0.00	.....	0.00	0.0	0	16	1	14	.....	G. H. Phelps
Bowman	Bowman	.....	1	12.6	.....	40	12	−37	27	43	0.30	.....	0.15	3.0	2	14	0	17	.....	L. S. Diehl
Buford	Williams	1,944	36	9.6	+3.8	36	18	−41	27	39	1.00	+0.50	0.20	10.0	6	11	9	11	nw.	C. H. McCune
Cando	Towner	1,488	14	1.4	+0.8	30	1	−40	27	32	0.04	−0.36	0.04	.....	1	.....	.....	.....	w.	E. T. Judd
Carson	Morton	.....	3	10.8	.....	44	12	−40	27	38	T.	.....	T.	0.0	0	13	8	10	w.	D. L. Basquin
Colgate	Steele	1,177	1	7.1	.....	32	9	−35	27	25	0.30	.....	0.10	3.0	4	5	16	10	ne.	H. P. Rice
Crosby	Divide	1,954	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson
Devils Lake	Ramsey	1,482	11	2.6	+2.3	32	4	−38	27	30	0.11	−0.49	0.06	1.6	4	6	9	16	nw.	U. S. W. B.
Dickinson	Stark	2,543	23	11.9	+1.5	38	9	−39	27	40	0.07	−0.38	0.03	0.7	3	6	13	5	.....	L. R. Waldron
Donnybrook	Ward	1,760	16	7.4	+3.8	35	†12	−39	27	31	0.15	−0.20	0.10	1.5	3	14	4	13	nw.	Geo. Mitchell
Dunseith	Rolette	1,682	19	1.2	−2.1	36	12	−42	27	42	0.20	−0.26	0.10	2.0	2	20	1	10	nw.	C. E. Goodsell
Eckman	Bottineau	.....	10	3.1	.....	36	17	−42	27	40	0.05	.....	0.05	1.0	1	13	11	7	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	14	8.2	+0.4	39	3	−34	27	45	0.21	−0.06	0.05	.....	7	7	3	21	nw.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.05	.....	5	11	10	10	nw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.13	3.0	2	19	6	6	e.	M. E. Uggen
Fessenden	Wells	1,610	3	4.2	.....	35	4	−40	27	42	0.32	.....	0.10	3.5	5	15	7	9	nw.	G. T. Seymour
Forman	Sargent	1,249	23	10.0	+3.1	44	5	−36	27	38	1.25	+0.74	1.20	12.5	2	12	8	11	nw.	A. Maltby
Fullerton	Dickey	1,439	17	6.8	−1.6	35	† 1	−34	27	38	0.99	+0.34	0.35	9.9	7	12	10	9	nw.	F. O. Alin
Garrison	McLean	1,901	20	6.6	−0.6	35	18	−39	27	37	0.19	−0.32	0.10	2.0	4	14	6	11	nw.	G. L. Robinson
Goodall	McKenzie	.....	1	8.8	.....	35	† 3	−40	27	32	0.10	.....	0.05	1.0	2	19	5	7	nw.	C. H. Layman
Grafton	Walsh	827	23	0.6	−0.8	31	9	−38	27	39	0.18	−0.40	0.07	.....	4	12	8	11	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	.....	.....	43[l]	14	- 36[a]	27	32[a]	0.20	.....	0.20	2.0	1	.....	.....	.....	.....	G. H. Laick
Granville	McHenry	1,504	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson
Hannah	Cavalier	1,568	10	- 0.6	.....	30	† 5	−46	27	37	0.60	.....	0.20	6.0	5	17	9	5	nw.	J. Moffatt
Hansboro	Towner	1,597	7	3.2	.....	40	8	−41	27	43	0.20	.....	0.20	2.0	1	.....	.....	.....	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	9	4.4	.....	33	13	−36	27	31	0.35	.....	0.20	3.5	2	15	9	7	nw.	F. E. Mayall
Howard	Williams	2,275	6	5.2	.....	30	† 1	−44	27	35	0.50	.....	0.30	5.0	2	10	15	6	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	5.0	−2.2	37	12	−35	†27	47	0.50	−0.04	0.20	5.0	5	12	3	16	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	1.6	+3.1	30	1	−42	27	38	0.18	−0.64	0.06	4.5	6	13	13	5	.....	C. R. Pettes
Lamoine	Kidder	.....	7	4.7	.....	33	† 1	−42	27	34	0.10	.....	0.10	1.0	1	18	0	13	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	- 1.2	.....	31	12	−48	27	39	0.50	.....	0.20	5.0	3	18	9	4	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	2.4	−0.9	31	10	−37	27	34	0.47	−0.03	0.25	4.7	6	.....	.....	.....	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	8.2	+2.9	41	12	−33	28	41	T.	−0.57	T.	T.	0	22	5	4	nw.	W. S. Adams
McHenry	Foster	1,509	5	3.4	.....	33	4	−40	27	31	0.40	.....	0.20	4.0	2	20	3	8	nw.	P. E. Truden
McKinney	Renville	1,640	21	6.6	+3.3	38	9	−39	27	46	0.30	−0.06	0.15	3.0	3	1	25	5	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	9.7	.....	51	4	−30	27	49	0.40	.....	0.20	4.0	3	18	4	9	nw.	E. W. Griggs
Maddock	Benson	.....	.....	4.2	.....	35	13	−42	27	33	0.04	.....	0.02	0.4	2	14	0	17	nw.	W. M. Jackson
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	0.07	.....	0.04	0.7	3	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	12	4.6	+0.7	34	11	−39	26	34	0.41	−0.27	0.10	4.5	6	14	7	10	nw.	P. B. Anderson
Manning	Dunn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings	.....	6	13.1	.....	41	11	−35	27	42	0.10	.....	0.08	2.8	2	9	13	9	w.	S. P. Grane
Marstonmoor	Stutsman	.....	6	2.8	.....	35	† 9	−45	†25	47	0.25	.....	0.10	2.5	5	14	7	10	nw.	H. H. McCumber
Mayville	Traill	975	19	4.7	−1.9	31	† 5	−35	27	29	0.33	−0.04	0.20	.....	4	17	3	11	nw.	W. C. Gould
Melville	Foster	1,590	17	6.0	−0.4	42[a]	9	−40[a]	27	39[a]	T.	−0.35	T.	T.	0	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	0.86	.....	0.48	10.2	4	14	11	6	n.	Hj. Edman
Minot	Ward	1,557	19	4.8	−1.0	46	18	−40	28	48	0.25	−0.12	0.10	2.5	3	10	11	10	nw.	B. L. Faris
Minto	Walsh	820	22	1.7	−0.1	31[a]	† 6	−40[a]	27	44[a]	0.04	−0.38	0.04	.....	1	17	6	7	n.	S. S. Marsh
Mott	Hettinger	2,424	8	11.3	.....	43	5	−38	27	44	0.35	.....	0.11	3.0	7	7	11	13	w.	O. H. Opland
Napoleon	Logan	1,955	23	5.0	−1.3	37	3	−41	27	40	0.15	−0.36	0.05	1.5	3	12	3	16	sw.	C. J. Hoof
New England	Hettinger	2,400	21	10.6[d]	−3.5	35[d]	4	−39[d]	27	31[d]	0.00	−0.44	0.00	0.0	0	.....	.....	.....	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	4.6	.....	32	† 5	−36	26	32	0.12	.....	0.05	1.2	4	6	17	8	nw.	H. H. Maxwell
New Salem	Morton	2,163	10	9.6	+0.8	40	† 4	−38	27	36	0.05	−0.59	0.05	0.5	1	8	15	8	nw.	J. Christiansen
Orange	Adams	2,586	6	9.9	.....	41	12	−38	27	33	0.20	.....	0.20	1.0	1	15	8	8	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	6.5	+1.0	36	11	−36	27	39	0.29	−0.26	0.27	.....	2	4	19	8	n.	J. J. Taylor
Park River	Walsh	998	11	2.9	+1.4	30	† 1	−35	27	40	0.06	−0.35	0.04	0.6	2	9	15	7	nw.	G. M. Hargrave
Pembina	Pembina	789	41	2.3	+5.0	32	7	−40	27	30	0.10	−0.49	0.10	1.0	1	10	14	7	ne.	C. W. Shumaker
Power	Richland	1,020	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.09	1.6	2	1	17	13	nw.	C. Frank
Ranger	Billings	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.10	2.9	3	11	11	10	nw.	C. M. Hubbard
Steele	Kidder	1,857	18	7.4	−1.5	37	9	−43	27	29	0.52	+0.17	0.20	5.0	4	15	7	9	w.	H. S. Wood
Towner	McHenry	1,482	13	4.5	+0.3	34	† 1	−42	27	34	0.15	−0.27	0.10	1.5	2	12	9	10	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	8.4	.....	42	1	−38	27	34	0.02	.....	0.02	0.2	1	6	13	12	nw.	E. J. Jones
University	Grand Forks	830	23	2.0	−2.0	31	10	−38	27	29	0.47	−0.05	0.15	4.8	9	18	10	3	nw.	U. S. W. B.
Wahpeton	Richland	962	21	7.0	−1.0	41	12	−35	27	41	0.86	+0.43	0.41	16.5	6	12	5	14	nw.	F. E. Smith
Walhalla	Pembina	966	8	3.2	.....	33	12	−38	27	34	0.60	.....	0.20	6.0	4	19	6	6	n.	I. DeL. Lee
Washburn	McLean	1,734	17	9.4	+1.7	38[a]	4	−36[a]	27	31[a]	0.07	−0.36	0.07	.....	1	.....	.....	.....	nw.	A. Wacker
Westhope	Bottineau	1,508	9	1.8	.....	35	12	−44	26	37	0.20	.....	0.20	2.0	1	12	16	3	nw.	C. M. Condit
Williston	Williams	1,875	36	8.5	+2.0	36	18	−40	27	34	0.38	−0.20	0.22	3.4	4	9	5	17	sw.	U. S. W. B.
Willow City	Bottineau	1,471	23	- 1.9	−2.8	30	1	−46	27	36	1.11	+0.76	0.40	11.1	7	5	19	7	w.	M. A. Osby
Zap	Mercer	.....	2	7.9	.....	36	† 3	−42	27	35	0.11	.....	0.05	1.5	3	11	6	14	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	4.9	+2.2	34	4	−31	27	36	0.35	−0.36	0.15	3.5	8	15	7	9	n.	U. S. W. B.
Averages		.....	.....	5.8	+0.6	51	4	−48	27	49	0.29	−0.20	1.20	3.4	3	12	9	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for January, 1915.

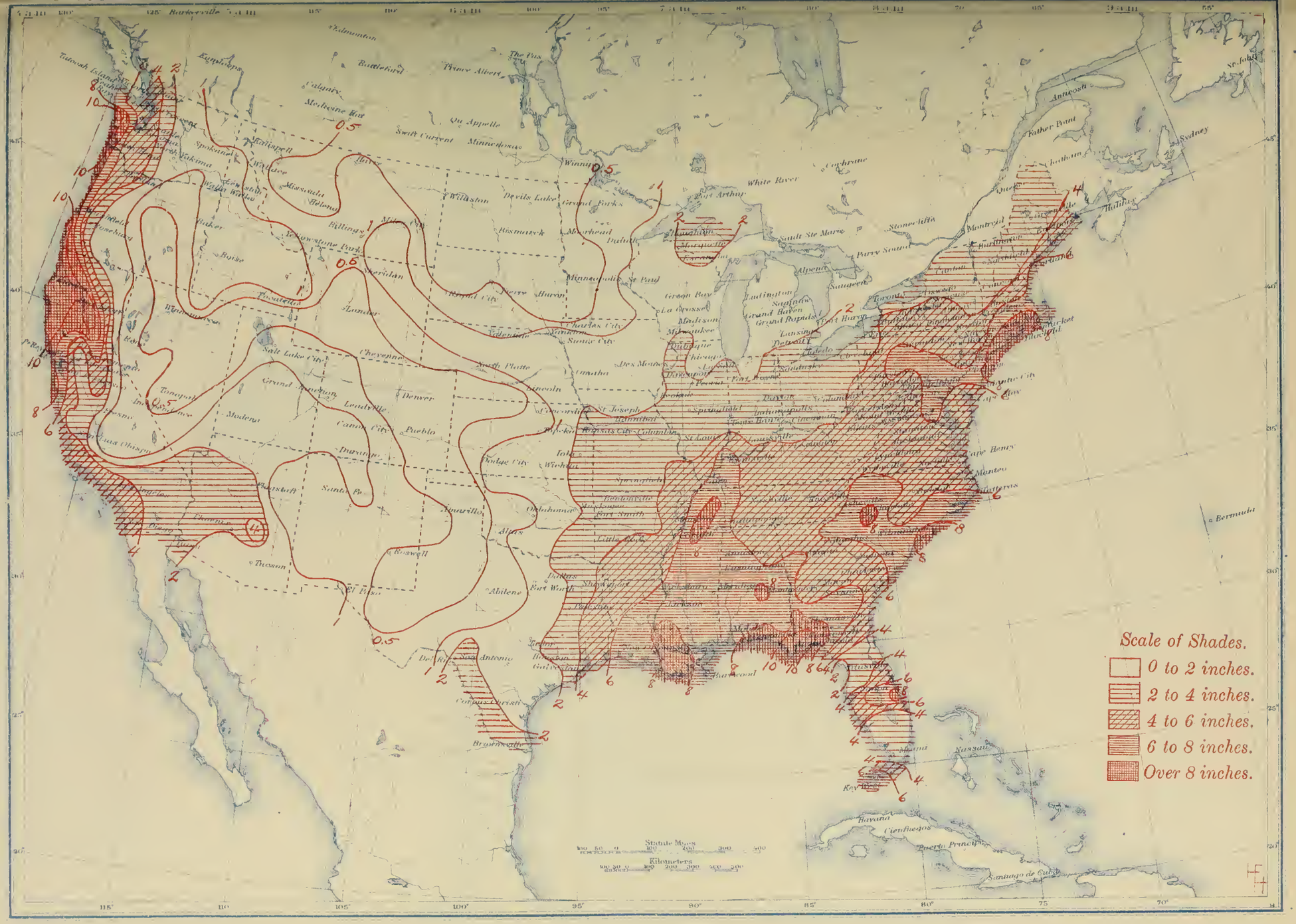
Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red	.04				.06	.09			T.							.02																0.21
Aplin	Knife							T.						.02		.05		.05		T.	T.	T.	T.		T.						T.		0.12
Ashley	Missouri					.10		.10								.20				.20												.40	1.00
Beach	Lit. Missouri					T.							T.			15	.08																0.23
Berthold Agency	Missouri					.10									T.	T.	T.	T.								T.					T.	T.	0.10
Bismarck ***	Missouri		T.			.01		T.						T.			.01	.04	T.	T.		.01	T.		T.						T.	.01	0.08
Bottineau ‖ ‖	Mouse	.03						T.	T.					.01	T.			T.	.02	.01			.01	T.			T.	.01			T.		0.09
Bowbells ‖ ‖	Mouse																																0.00
Bowman	Grand																.15	.15															0.30
Buford	Missouri					.20								T.		.20		.20								.20					.10	.10	1.00
Cando	Sheyenne															.04																	0.04
Carson	Heart					T.												T.													T.		T.
Colgate	Sheyenne					T.	.10	T.						T.	T.	.05	T.		.05	.10					T.						T.	T.	0.30
Crosby	Mouse																																
Devils Lake ***	Sheyenne	T.				.06	T.	T.						T.	.01				.03	T.			T.	T.	.01						T.		0.11
Dickinson	Heart					.02										.03		.02	T.				T.								T.		0.07
Donnybrook	Mouse					.02													.10												.03		0.15
Dunseith	Mouse	T.						.10						T.				.10				T.											0.20
Eckman	Mouse					T.								T.	T.						T.		T.	T.	.05		T.				T.		0.05
Edgeley	James					.02										.01	.05	.01							.05						.02	.05	0.21
Energy	Missouri		T.			T.		T.						.04			.05	.05		.03												.03	0.20
Epping	Missouri														.13			T.	.08														0.21
Fessenden ‖ ‖	James					.10	T.	T.							.04	T.			.09	.05	.04		T.	T.	T.						T.	T.	0.32
Forman	Sheyenne	T.				.05										1.20																	1.25
Fullerton	James	.03				.04		.02								.35			T.	.05			T.				T.				.15	.35	0.99
Garrison	Missouri		T.			.10		T.	T.					.05	T.	T.	.02	.02		T.		T.									T.	T.	0.19
Goodall	Missouri					.05													.05														0.10
Grafton ‖ ‖	Red						.07	T.							.07			.01									.03						0.18
Grand Rapids	James																T.															.20	0.20
Granville	Mouse																																
Hannah	Pembina	.10						.10						.20					.10	.10													0.60
Hansboro	Red													T.	.20				T.														0.20
Hettinger	Grand																																
Hillsboro	Red	T.					.15								.20																T.		0.35
Howard	Missouri					.20	T.						.30	T.		T.			T.	T.		T.											0.50
Jamestown ‖ ‖	James						.20		.10						.10	.05															.05		0.50
Lakota	Sheyenne					.02	.06				T.		.02	.02			T.		.02	.04											T.	T.	0.18
Lamoine	Missouri					T.		.10						T.	T.		T.																0.10
Langdon ‖	Pembina		T.				T.	.10	T.					T.	.20					.20													0.50
Larimore ‖	Red	.02					.25	.05							.05					.05					.05								0.47
Lisbon ‖	Sheyenne														T.												T.						T.
McHenry	James					T.		T.	T.					T.		.20			T.	.20		T.	T.	T.									0.40
McKinney	Mouse					.05												.10		.15											T.		0.30
McLeod	Sheyenne															.20				.10												.10	0.40
Maddock	Sheyenne	.02				.02																											0.04
Mandan	Missouri						.02	.01										.04			T.				T.						T.		0.07
Manfred	Sheyenne	T.				.10	.08	.04					.10				.07	T.	T.			.02											0.41
Manning	Knife																																
Marmarth	Lit. Missouri				T.									T.		.08	.02	T.							T.		T.			T.			0.10
Marstonmoor	James	T.				.05	.05	.10							.02	T.	T.	.03	T.	T.			T.		T.						T.	T.	0.25
Mayville	Red						.20								T.				.02	.10													0.33
Melville	James																	T.	T.	T.													T.
Milnor	Red					T.	.17									.48			T.						T.						.10	.11	0.86
Minot ‖	Mouse					T.	.10												.10						.05								0.25
Minto	Red																.04																0.04
Mott	Cannon Ball																	.02	.03		.01		T.	.02		.09					.11	.07	0.35
Napoleon ‖	Missouri																		.05	.05												.05	0.15
New England	Cannon Ball																																0.00
New Rockford	James		.02				.07	.05		.01					T.	T.																	0.12
New Salem	Heart							T.						T.			T.	.05	T.				T.								T.		0.05
Orange	Cannon Ball																	.20															0.20
Oriska	Sheyenne						.27	T.	T.						T.				.02	T.							T.					T.	0.29
Park River	Red					T.	T.	.04						T.	.02				T.	T.					T.		T.					T.	0.06
Pembina ‖	Red																			.10													0.10
Power	Sheyenne																																
Powers Lake	Missouri						T.							T.		.09		.07	T.								T.			T.			0.16
Ranger	Lit. Missouri												T.		T.	.10	.05	.10				T.			T.								0.25
Steele	Missouri					T.	.02	.10					T.	T.				T.	.20						T.	.20							0.52
Towner	Mouse	T.				T.	T.	.05					T.		T.	T.		.10		T.				T.								T	0.15
Turtle Lake	Missouri																		.02												T.		0.02
University	Red	.01				10								.07	T.	.01			.15	.05					.03	.04					.01		0.47
Wahpeton ‖	Red	T.				.20								T.	.05	.05	.41			.10							T.					.05	0.86
Walhalla	Pembina						T.							.20					.10	.10	.20												0.60
Washburn	Missouri								.07					T.						T.											T.	T.	0.07
Westhope	Mouse																	.20													T.		0.20
Williston ***	Missouri					.22								T.	T	.13	.91	.02	T.	T.	T.	T.	T.	T.		T.					T.	T.	0.38
Willow City	Mouse					T.	T.	.10						.10		T.	.30	.40	.10	T.	T.		.01	T.		T.	T.				.10		1.11
Zap	Knife					.01												.05	.05	T.							T.				T.		0.11
Moorhead, Minn ***	Red	.04				.06	.09			T.					T.	.05	.02		.05	.01											.03		0.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	——	——	——	——	——	——	——	——	——	——	42	31	26	23	10	9	19	30	17	5	0	3	3	- 5	2	0	5	8	1	16	——	10.9
	Minimum	——	——	——	——	——	——	——	——	——	——	——	10	12	10	- 4	- 4	- 2	- 7	- 3	- 5	-15	-22	-24	-17	-32	-31	-34	-33	-25	-25	- 5	-12.8
Aplin	Maximum	32	20	36	38	34	——	25	35	36	31	33	38	35	23	12	12	25	35	32	17	4	4	5	5	6	- 2	-10	6	7	15	16	20.2
	Minimum	15	12	14	24	4	——	5	5	10	17	6	15	17	7	5	5	8	9	15	-14	-15	-10	-23	-18	-33	-22	-39	-17	-18	- 4	10	- 0.3
Ashley	Maximum	34	12	27	34	29	28	23	22	36	29	32	34	34	29	10	8	10	32	32	14	3	2	4	- 1	- 5	- 2	-11	6	0	15	13	17.2
	Minimum	8	-10	- 5	17	18	10	9	3	0	16	0	12	23	7	2	- 5	- 7	8	11	-10	-18	-13	-23	-15	-28	-18	-37	-28	-23	- 7	9	- 3.0
Beach	Maximum	30	36	46	41	38	28	29	35	38	34	40	41	33	25	21	17	19	36	42	31	12	-10	10	- 9	0	5	0	- 5	15	11	13	22.6
	Minimum	7	18	16	13	10	2	- 9	9	13	15	11	14	14	12	13	- 4	- 3	10	17	8	-10	-22	-25	-28	-11	-14	-18	-36	-10	- 7	- 1	0.1
Berthold Agency	Maximum	36	24	36	40	41	27	13	36	35	33	35	36	38	23	24	13	27	37	35	17	8	12	5	- 4	2	1	- 5	5	11	17	19	21.8
	Minimum	12	14	1	17	22	6	4	- 8	- 4	13	1	4	14	12	6	- 2	8	9	15	2	- 6	-12	-29	-17	-37	-26	-43	-16	-20	- 5	12	- 1.7
Bismarck	Maximum	27	13	34	40	31	25	16	37	35	31	34	40	36	19	12	12	24	38	25	13	4	- 1	5	- 6	5	- 2	-12	5	6	17	15	18.6
	Minimum	10	8	4	20	24	15	3	2	0	15	8	13	15	13	2	1	- 1	8	13	- 6	- 8	-13	-22	-22	-29	-24	-35	-16	-18	6	11	- 0.1
Bottineau §§	Maximum	12	7	30	31	29	17	12	32	28	22	24	37	16	14	5	5	16	28	5	3	5	2	- 5	-15	-11	-15	-15	- 3	- 1	12	16	11.1
	Minimum	0	-11	- 5	7	15	6	4	-10	- 5	- 2	- 6	- 2	7	- 1	- 9	-13	- 7	- 2	10	- 9	- 9	- 9	-29	-30	-39	-38	-44	-43	-25	-18	3	-10.1
Bowbells §§	Maximum	32	28	29	30	23	27	26	32	31	30	32	38	12	12	20	26	31	19	10	5	- 7	- 2	- 5	- 4	-10	- 4	- 4	- 2	18	11	12	15.9
	Minimum	10	7	5	4	10	8	10	15	12	13	7	10	12	- 2	-13	- 6	7	10	0	- 7	-10	-26	-32	-31	-31	-41	-24	-24	-21	- 8	0	- 4.4
Carson	Maximum	35	22	38	42	36	27	22	38	38	33	38	44	34	28	16	14	28	36	32	18	4	0	12	2	8	2	- 6	10	5	15	16	22.2
	Minimum	20	10	4	18	20	12	2	4	0	8	4	10	20	13	8	- 2	- 3	5	16	0	-16	-12	-24	-13	-30	-26	-40	-17	-20	2	10	- 0.5
Crosby	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	Maximum	19	6	31	32	29	20	12	20	26	28	27	28	24	12	5	3	9	29	27	- 1	2	2	- 4	-10	- 4	-19	-19	- 4	- 1	11	12	11.6
	Minimum	- 7	-13	2	18	11	12	2	3	3	11	4	12	11	0	0	-10	- 3	2	- 3	-13	-12	-18	-23	-25	-29	-31	-38	-23	-23	-11	- 4	- 6.3
Dickinson	Maximum	34	24	37	37	34	23	26	35	38	31	37	37	33	21	18	10	24	34	37	16	11	7	11	7	9	7	- 6	8	10	15	15	21.9
	Minimum	10	12	12	22	21	5	- 7	10	7	18	8	15	20	18	10	0	0	15	14	8	- 7	-15	-23	-12	-31	-20	-39	-11	-11	- 3	12	1.9
Donnybrook	Maximum	26	17	33	34	29	23	16	29	31	28	32	35	29	18	16	6	22	35	29	15	3	2	4	- 7	- 4	- 4	-16	1	6	17	15	16.8
	Minimum	1	7	14	21	20	7	2	6	7	18	8	8	10	6	- 0	-10	- 9	9	13	0	- 3	-12	-24	-31	-28	-28	-39	-20	-19	- 6	9	- 2.0
Dunseith	Maximum	22	5	27	29	29	29	14	13	26	29	27	36	18	12	12	5	12	30	25	9	6	5	3	- 9	-14	-13	-17	- 3	1	11	14	12.8
	Minimum	-12	-12	- 5	10	11	11	-10	-11	- 4	- 3	- 5	7	6	- 8	-10	-10	- 4	-12	8	-15	-11	-22	-27	-27	-38	-28	-42	-24	-20	- 9	- 6	-10.2
Edgeley	Maximum	36	10	39	35	35	29	20	33	37	22	22	30	38	31	10	9	25	31	33	16	5	5	6	3	- 4	1	-11	7	10	11	15	19.0
	Minimum	5	-15	- 6	13	17	17	10	- 4	5	16	8	14	23	7	0	- 2	- 7	- 1	15	- 8	-15	-19	-20	-15	-25	-15	-34	-28	-24	- 6	10	- 2.7
Fessenden §§	Maximum	14	17	35	33	30	21	15	30	31	28	30	34	23	17	10	8	16	32	17	13	8	7	3	- 7	- 3	- 7	- 7	- 1	7	11	14	15.5
	Minimum	1	-15	- 7	17	14	15	11	- 6	3	8	- 1	- 4	13	7	0	- 7	- 6	- 2	13	-15	-15	-25	-27	-35	-32	-40	-37	-25	-20	6	- 7.0
Forman	Maximum	38	11	31	40	44	35	32	29	35	38	33	38	42	35	20	14	28	30	38	19	6	6	3	4	0	1	- 6	6	7	15	19	22.3
	Minimum	0	-14	- 5	18	17	16	8	- 4	7	10	1	15	24	10	4	- 4	4	- 6	14	-10	-17	-24	-23	-13	-32	-15	-36	-31	-24	- 3	12	- 2.4
Fullerton	Maximum	35	10	31	32	30	29	16	23	29	32	28	30	35	29	8	8	17	34	30	9	2	5	3	0	- 6	0	- 8	6	3	12	16	17.0
	Minimum	- 3	-15	- 5	13	17	16	1	- 1	0	11	1	11	24	8	4	- 4	- 6	3	8	- 9	-14	-15	-17	-14	-26	-16	-34	-28	-22	- 4	12	- 3.4
Garrison	Maximum	12	12	32	34	30	25	16	32	30	28	29	34	33	18	15	11	23	35	27	18	5	3	2	- 7	- 3	- 3	-16	3	4	14	15	16.5
	Minimum	10	9	2	16	18	7	4	- 5	- 2	14	0	9	14	6	2	- 6	- 6	5	15	- 5	- 9	-10	-26	-24	-33	-28	-39	-22	-21	- 6	9	- 3.3
Grafton §§	Maximum	6	1	20	22	30	19	14	20	31	32	24	29	22	21	9	7	15	28	15	9	2	2	16	- 5	- 6	- 8	-15	- 2	- 2	9	14	12.2
	Minimum	- 1	-24	-19	- 1	5	12	5	- 4	- 2	- 2	- 4	4	14	5	- 6	- 8	- 6	- 3	9	-12	-19	-27	-25	-25	-35	-30	-38	-37	-36	-26	- 4	-11.0
Granville	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hannah	Maximum	15	5	21	28	30	24	13	18	20	28	28	30	20	12	9	8	12	28	22	6	0	2	-10	-10	- 9	-11	-21	-13	5	12	10	10.7
	Minimum	-17	-23	- 5	10	5	10	0	- 6	-11	10	9	10	7	0	- 6	- 6	-10	- 6	4	-19	-23	-25	-31	-33	-41	-34	-46	-36	-32	-16	- 5	-11.8
Hettinger	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hansboro	Maximum	25	5	15	30	28	24	26	40	33	22	24	33	20	27	6	4	22	30	28	8	19	10	0	0	- 8	0	-10	- 9	2	10	8	15.2
	Minimum	-13	-17	- 3	12	17	17	5	- 3	- 2	11	0	10	5	- 8	- 4	- 6	- 7	- 5	7	- 8	-21	-18	-27	-32	-37	-25	-41	-31	-29	-12	- 5	- 8.7
Howard	Maximum	30	22	30	29	21	21	22	20	24	25	21	28	32	22	17	8	20	23	23	12	7	27	- 7	- 7	- 9	- 4	-15	1	1	10	3	14.3
	Minimum	10	10	11	19	17	- 5	-13	-13	8	6	7	11	9	15	6	-10	6	17	8	0	- 2	-27	-29	-25	-35	-34	-44	-17	-19	-10	0	- 3.9
Jamestown §§	Maximum	23	10	35	36	31	24	15	29	32	32	33	37	30	18	8	7	13	32	19	10	10	6	7	- 8	0	- 6	-10	5	6	14	16	16.6
	Minimum	- 2	-16	-12	- 3	16	17	11	- 3	0	5	4	- 2	14	5	0	- 4	- 4	0	5	10	-13	-20	-18	-20	-30	-30	-35	-35	-20	-21	- 5	- 6.6
Lakota	Maximum	30	22	24	27	27	24	14	20	23	27	27	26	16	16	6	4	13	29	26	8	0	- 2	- 6	-13	-11	- 6	-21	- 8	- 6	10	12	11.5
	Minimum	-20	- 6	1	11	6	14	1	6	- 7	- 4	10	15	5	6	- 4	- 4	- 3	- 9	8	-16	-21	-24	-25	-29	-37	-30	-42	-35	-34	-11	4	- 8.3
Lamoine	Maximum	33	10	22	32	32	28	14	30	26	30	28	31	33	18	13	5	17	31	28	14	3	0	0	- 4	- 4	- 5	-17	0	4	11	12	15.3
	Minimum	- 1	-10	- 1	14	14	14	0	- 4	2	14	- 1	12	12	0	- 1	- 7	- 7	2	0	-16	-20	-10	-24	-23	-34	-28	-42	-26	-23	4	8	- 5.9
Langdon	Maximum	4	5	25	28	29	20	14	15	28	27	27	31	18	10	1	9	13	27	12	4	1	- 3	- 5	-11	- 8	- 9	-20	-10	4	9	11	9.9
	Minimum	- 4	-18	-14	- 3	8	13	5	- 3	- 3	- 4	- 5	- 2	9	5	- 3	- 5	- 6	- 6	- 8	-16	-17	-18	-29	-29	-39	-40	-48	-43	-34	-23	1	-12.2
Larimore §§	Maximum	9	5	24	27	29	19	12	21	30	31	26	28	23	18	6	7	18	28	14	- 4	14	3	- 4	- 6	- 4	- 6	- 9	- 3	4	13	12	12.4
	Minimum	2	-19	-10	4	11	12	3	- 1	- 3	7	5	8	18	6	- 1	-11	- 5	- 1	- 4	-11	-14	-22	-21	-24	-28	-23	-37	-33	-30	-14	3	- 7.5
Lisbon §§	Maximum	26	30	33	35	33	29	23	23	18	20	25	41	36	29	20	19	14	16	12	18	20	16	14	12	- 2	- 4	- 3	8	13	18	12	19.5
	Minimum	6	8	12	8	15	10	9	5	4	0	6	14	20	10	10	6	- 4	0	- 8	- 8	-10	-15	-20	-20	-30	-18	-35	-33	-24	-15	- 3	- 3.2
McHenry	Maximum	9	7	28	33	30	26	18	20	27	30	27	29	27	17	7	5	16	29	14	10	0	3	1	-10	- 5	-10	-25	- 1	- 4	11	14	12.3
	Minimum	- 6	- 4	- 3	17	11	14	6	- 3	0	15	0	12	16	0	- 2	- 3	- 2	- 2	9	-15	-14	-15	-24	-25	-33	-37	-40	-16	-28	-12	9	- 5.6
McKinney	Maximum	30	29	39	30	30	26	22	24	38	31	34	34	24	18	10	15	24	35	32	20	12	10	5	- 8	- 6	- 5	-10	- 4	0	15	16	18.8
	Minimum	- 7	- 4	2	10	20	7	4	- 2	- 8	18	0	12	10	2	0	- 8	- 5	10	10	0	- 2	-12	-26	-33	-30	-31	-39	-33	-24	-11	- 5	- 5.6
Manfred	Maximum	24	13	33	33	30	25	18	25	32	28	34	28	18	15	5	18	32	28	15	5	4	3	- 5	- 2	- 3	-15	- 2	- 2	6	11	13	15.1
	Minimum	- 6	-15	5	20	15	15	- 2	- 5	0	15	15	14	7	0	- 5	- 2	- 2	12	-15	-14	-11	-25	-26	-31	-25	-39	-24	-24	-23	-13	9	- 5.8
Marmarth	Maximum	34	36	35	35	24	28	35	35	32	38	41	34	27	27	24	18	27	33	34	28	13	3	17	11	4	6	- 4	21	10	18	16	24.3
	Minimum	10	9	10	18	8	- 6	9	10	15	7	20	7	7	7	13	1	- 1	21	17	12	- 4	-15	-25	-15	-23	-11	-35	-13	- 7	2	10	1.9
Minot §§	Maximum	10	15	30	30	28	21	13	27	30	27	27	24	20	21	13	15	25	46	26	10	11	- 5	6	2	3	- 3	- 2	6	10	15	15	16.6
	Minimum	7	5	6	12	17	11	8	2	- 7	- 6	1	5	11	4	1	- 8	- 7	- 2	10	- 1	-30	- 5	-26	-32	-34	-35	-39	-40	-30	-21	2	- 7.1
Molt	Maximum	27	35	43	40	38	26	25	35	33	24	35	41	38	26	31	28	34	42	34	32	22	13	6	- 5	0	- 4	- 9	12	12	17	17	24.1
	Minimum	- 5	- 3	5	15	20	5	- 2	- 9	4	5	7	4	17	10	- 1	6	16	11	7	9	- 8	-13	-25	-16	-31	-14	-38	-15	-15	- 4	10	- 1.5
Napoleon §§	Maximum	21	12	37	36	30	23	14	20	37	30	31	35	34	20	9	- 2	20	34	20	1	2	- 1	5	- 7	- 1	- 4	-20	5	6	15	13	15.3
	Minimum	2	-13	- 3	10	16	13	8	0	6	15	3	10	14	1	0	- 6	- 3	0	7	-10	-19	-10	-26	-22	-30	-23	-41	-27	-26	-20	7	- 5.4
New England	Maximum	——	——	25	35	——	20	18	20	30	28	31	35	30	30	25	20	34	31	20	14	9	3	10	——	0	- 8	- 8	4	- 1	13	25	18.6
	Minimum	——	——	18	25	——	11	- 5	-10	20	1	3	14	25	24	15	10	20	20	14	9	- 7	-22	-15	——	-31	-15	-39	- 8	-15	0	10	2.7
New Rockford	Maximum	14	30	15	26	32	20	18	22	24	19	29	29	23	15	10	15	13	32	19	12	0	4	8	7	- 7	- 3	-16	-10	- 1	6	10	13.4
	Minimum	- 6	0	-10	15	17	12	4	5	3	6	5	17	11	7	- 1	- 8	3	7	10	-13	-10	-15	-24	-28	-26	-36	-22	-23	-12	-11	- 3	- 4.1
New Salem	Maximum	35	35	32	40	31	24	17	36	37	32	35	40	35	20	21	12	25	31	30	16	3	2	7	- 3	6	3	-10	6	6	15	15	20.5
	Minimum	15	5	6	18	20	13	6	10	10	14	12	14	15	9	12	- 2	- 3	-10	2	-10	-12	-18	-23	-23	-30	-22	-38	-22	-21	-12	7	- 1.2
Orange	Maximum	29	17	34	39	28	27	18	34	32	29	34	41	35	28	15	15	27	34	24	13	3	0	15	0	3	2	- 5	17	5	15	15	20.1
	Minimum	12	1	1	24	21	4	- 2	5	9	8	1	11	18	10	6	- 1	- 3	9	9	- 3	- 6	-16	-22	-13	-27	-15	-38	-16	-10	5	10	- 0.3
Oriska	Maximum	29	28	29	32	28	22	15	28	28	36	24	33	28	19	——	——	16	30	16	- 1	3	2	5	- 6	- 3	- 6	-10	10	12	14	——	16.2
	Minimum	22	24	23	22	15	15	- 4	- 5	-14	8	14	11	19	- 2	0	——	——	- 6	- 9	-11	-11	-22	-20	-21	-28	-26	-36	-33	-26	-20	10	- 3.2
Park River	Maximum	30	- 1	22	28	29	25	17	17	21	30	25	26	25	15	7	7	14	29	29	7	5	- 1	- 6	- 6	- 9	- 5	- 5	- 6	- 2	10	11	12.5
	Minimum	-10	-20	- 6	8	10	12	5	3	0	16	6	10	15	6	2	-10	- 5	- 2	7	- 9	-16	-20	-22	-26	-30	-22	-35	-32	-30	-18	4	- 6.7
Pembina §§	Maximum	- 4	12	18	26	28	26	32	-26	22	18	22	28	24	22	18	12	18	28	10	7	0	2	8	-10	-10	- 8	-18	-18	- 8	-8	2	10.8
	Minimum	-12	-10	- 4	5	10	14	10	14	18	9	6	8	12	5	4	- 2	- 6	0	7	-10	-20	-20	-22	-30	-30	-28	-40	-22	-35	-12	-12	- 6.2
Power	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towner	Maximum	34	11	31	33	28	25	17	25	27	29	31	31	26	16	12	2	16	34	30	15	6	2	- 3	- 9	- 6	-12	-18	- 6	5	13	15	14.9
	Minimum	4	-11	3	18	15	15	5	- 5	- 3	14	- 3	11	15	8	2	-20	- 5	0	8	-19	-11	-12	-28	-29	-35	-31	-42	-25	-25	- 7	10	- 5.9
Turtle Lake	Maximum	42	40	33	35	35	26	15	31	31	29	27	32	33	20	16	10	20	35	31	17	6	3	2	- 1	- 3	- 3	-16	3	4	15	16	18.8
	Minimum	10	6	7	15	18	10	4	3	5	1	2	12	14	6	3	3	- 6	5	15	- 2	- 9	-11	-20	-24	-30	-25	-38	-20	-18	- 5	10	- 1.9
University	Maximum	6	1	20	29	29	17	11	19	25	31	25	31	29	12	8	7	11	28	22	9	1	0	- 2	-12	- 5	- 5	-18	- 4	- 3	15	14	11.3
	Minimum	-12	-18	- 5	15	9	11	- 2	- 2	- 4	16	- 3	14	8	3	- 1	- 7	0	1	1	-11	-19	-22	-23	-30	-27	-38	-26	-30	-11	5	- 7.4
Wahpeton §§	Maximum	26	12	26	36	32	25	17	30	15	35	27	41	30	25	19	10	12	38	26	14	- 1	- 1	10	11	- 5	1	-12	4	7	5	25	17.3
	Minimum	- 5	-19	4	10	15	15	7	5	5	- 1	2	18	25	10	- 2	- 1	4	- 3	14	- 4	-18	-30	-17	-11	-30	-14	-35	-20	-26	- 6	10	- 3.2
Washburn	Maximum	35	——	34	38	31	26	16	37	34	23	31	31	35	19	15	12	24	36	32	16	10	4	6	- 3	0	- 3	-14	6	6	15	14	18.9
	Minimum	13	——	5	23	22	15	7	3	9	20	8	17	12	8	3	- 5	0	8	15	- 8	- 8	- 9	-23	-17	-31	-23	-36	-18	-18	1	1	- 0.2
Westhope	Maximum	27	12	24	29	28	26	15	23	20	30	27	35	26	14	9	5	20	34	29	14	6	- 5	-10	-12	- 8	-11	-17	- 4	2	12	14	13.4
	Minimum	1	-14	- 5	14	17	1	3	-14	- 9	7	- 8	5	9	- 3	- 9	-10	- 8	- 3	10	-11	5	-30	-32	-32	-41	-32	-44	-29	-27	- 8	7	- 9.8
Williston	Maximum	24	29	33	36	30	15	15	33	32	27	33	35	29	22	18	9	28	36	19	13	7	3	2	- 7	- 3	- 6	6	2	13	15	17	17.8
	Minimum	15	16	16	17	15	- 2	- 9	2	4	11	7	14	12	18	9	- 2	2	15	13	4	0	-22	-23	-25	-31	-30	-40	-13	-17	0	3	- 0.8
Willow City	Maximum	30	5	27	23	25	15	15	13	18	21	21	25	26	10	5	2	0	26	25	8	4	11	0	-20	-13	-20	-20	-10	3	10	10	9.5
	Minimum	- 5	-16	-10	-10	-11	4	-15	-13	- 9	7	- 7	2	6	- 1	- 6	-16	- 5	- 6	8	-20	-13	-12	-32	-33	-40	-36	-46	-30	-28	-16	- 2	-13.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

FEBRUARY, 1915.

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 26, 1915.

Departure of the Mean Temperature from the Normal, February, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., FEBRUARY, 1915. NO. 2.

GENERAL SUMMARY.

Exceptionally mild and pleasant weather prevailed throughout the entire State during the month, and was, without exception, the mildest of any February of record in the climatological history of the State. The temperature averaged ten degrees above the normal. While there was much cloudiness, and the precipitation was somewhat above the normal, there were no severe storms, although the snowfall in the southeastern part of the State was excessive.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.12 inches. The highest was 30.52 inches at University, Grand Forks County, on the 27th; the lowest was 29.45 inches at Williston, Williams County, on the 3d.

TEMPERATURE.

The mean temperature for the State was 17.4°, or 9.9° above the normal, and 16.3° higher than the mean for February, 1914. This is the highest February mean temperature ever recorded in the State since the Climatological Service was established in 1892. Every station showed a mean considerably above the normal. The highest monthly mean reported was 22.6° at Forman, Sargent County; the lowest was 13.0° at Langdon, Cavalier County. The highest temperature reported was 50° at New Rockford, Eddy County, on the 28th; the lowest was −20° at Lisbon and McLeod, Ransom County, on the 1st and 2d, respectively. Bismarck had the distinction of recording no temperature below zero during the month, a condition that has obtained but once in February during the past forty years (1878). The greatest monthly range of temperature was 58° at Lisbon and McLeod, Ransom County; the least was 38° at Garrison, McLean County. The greatest daily range was 48° at Lisbon, Ransom County, on the 2d, and at Minot, Ward County, on the 16th. The first decade was the coldest, and the last the warmest.

HUMIDITY.

The average relative humidity, as determined from the 7 a. m. and 7 p. m. reports of five recording stations, was 88 per cent.

PRECIPITATION.

The average precipitation for the State was 0.62 inch, or 0.12 inch above the normal, and 0.28 inch greater than the average for February, 1914. The greatest monthly amount reported was 4.20 inches at Lisbon, Ransom County; there was none at Maddock, Benson County, Orange, Adams County, and Turtle Lake, McLean County. The greatest amount recorded in any twenty-four consecutive hours was 2.40 inches at Lisbon, Ransom County, on the 15th. The average snowfall was 6.1 inches, and the greatest fall occurred at Lisbon, 42.0 inches. Three stations reported no snow whatever. There was an average of three days with 0.01 inch or more of precipitation. The distribution of precipitation was fairly uniform geographically. Stormy periods were the 4-5th, 13th to the 15th, inclusive, and light scattered precipitation from the 20th to 25th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.0 miles. The greatest wind movement was 5,953 miles at Devils Lake, an average of 8.9 miles per hour; the least was 3,871 miles at Williston, an average of 5.8 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 50 miles per hour from the northwest at University on the 1st, considering only the reports of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 9, partly cloudy 5, and cloudy 14.

ERRATA, JANUARY, 1915.

Page 4: Amenia, monthly mean and departure should be −0.3°, −5.6°; Fessenden, date of highest temperature should be 3d; Grafton, highest temperature and date should be 32° on 10th; Howard, highest temperature and date should be 33° on 18th; Lisbon, lowest temperature and date should be −35° on 27th; Mott, date of highest temperature should be 3d.

Page 6: Amenia, mean maximum should be 12.2°.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.	
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.
1892	10.0	+2.5	62	−41	0.58	+0.08
1893	−0.3	−7.8	52	−54	0.59	+0.09
1894	8.0	+0.5	55	−40	0.22	−0.28
1895	5.9	−1.6	65	−50	0.36	−0.14
1896	14.8	+7.3	64	−29	0.44	−0.06
1897	6.1	−1.4	52	−40	1.15	+0.65
1898	13.3	+5.8	65	−34	0.46	−0.04
1899	0.4	−7.1	68	−48	0.20	−0.30
1900	1.3	−6.2	46	−48	0.47	−0.03
1901	7.1	−0.4	60	−31	0.31	−0.19
1902	12.1	+4.6	51	−33	0.98	+0.48
1903	3.1	−4.4	46	−49	0.38	−0.12
1904	−2.1	−9.6	52	−42	0.54	+0.04
1905	8.2	+0.7	64	−46	0.30	−0.20
1906	9.8	+2.3	57	−38	0.13	−0.37
1907	10.7	+3.2	58	−49	0.27	−0.23
1908	13.9	+6.4	62	−34	0.99	+0.49
1909	9.6	+2.1	56	−34	0.34	−0.16
1910	3.4	−4.1	56	−50	0.50	0.00
1911	7.3	−0.2	55	−38	0.73	+0.23
1912	11.8	+4.3	48	−33	0.15	−0.35
1913	8.5	+1.0	64	−44	0.10	−0.40
1914	1.0	−6.5	57	−47	0.34	−0.16
1915	17.4	+9.9	50	−20	0.62	+0.12

Climatological Data for February, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Amenia	Cass	954	19	16.0	+8.2	43	18	− 9	3	44	0.70	+0.32	0.60	7.0	2	7	0	21	n.	E. T. Carley
Aplin	Oliver		8	18.6	.....	36[a]	9	− 6[a]	14	37[a]	0.25	.....	0.10	2.5	4	.....	.....	.....	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	17.9	+11.4	39	18	−10	† 2	33	1.30	+0.79	0.80	13.0	3	10	4	14	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	19.3	.....	44	17	− 9	15	35	0.14	.....	0.14	3.0	1	21	0	7	s.	D. J. Steiner
Berthold Agency	McLean	2,082	21	18.0	+8.7	37	17	−13	15	44	0.19	−0.48	0.19	3.0	1	8	6	14	e.	C. L. Hall
Bismarck	Burleigh	1,674	41	20.6	+12.3	37	10	0	8	34	0.03	−0.47	0.03	0.4	1	8	5	15	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	23	15.4	+13.3	35	20	−13	6	38	0.18	−0.23	0.10	1.8	3	4	3	21	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	15.9	.....	38	17	−10	5	41	0.34	.....	0.24	3.4	2	11	0	17	.....	G. H. Phelps
Bowman	Bowman		1	20.6	.....	48	23	− 5	† 1	41	0.60	.....	0.30	6.0	2	12	0	16	.....	L. S. Diehl
Buford	Williams	1,944	36	19.0	+8.3	40	†16	− 7	28	42	0.40	−0.09	0.30	4.0	2	7	8	13	ne	C. H. McCune
Cando	Towner	1,488	14	16.6	+13.1	34	18	− 9	6	32	0.12	−0.14	0.12	1.2	1	14	2	12	nw.	E. T. Judd
Carson	Morton		3	20.2	.....	45	10	− 8	8	41	T.	.....	T.	T.	0	8	9	11	s.	D. L. Basquin
Colgate	Steele	1,177	1	18.6	.....	43	18	− 6	6	37	1.40	.....	1.00	14.0	3	9	5	14	ne.	H. P. Rice
Crosby	Divide	1,954	8	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	.....	.....	.....	.....	H. G. Anderson
Devils Lake	Ramsey	1,482	11	15.4	+10.9	35	18	− 8	6	27	0.24	−0.29	0.17	2.9	4	4	6	18	se.	U. S. W. B.
Dickinson	Stark	2,543	23	19.7	+7.8	43	16	− 8	15	39	0.15	−0.34	0.07	1.5	4	2	17	9	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	17.0	+9.0	34	17	− 7	5	29	0.17	−0.48	0.12	3.0	2	11	2	15	nw.	Geo. Mitchell
Dunseith	Rolette	1,682	19	16.0	+12.3	34	18	−10	5	36	T.	−0.45	T.	T.	0	6	4	18	nw.	C. E. Goodsell
Eckman	Bottineau		10	16.0	.....	34	16	−10	† 5	45	0.90	.....	0.50	.....	3	12	3	13	n.	J. Nussbaum
Edgeley	LaMoure	1,468	14	19.4	+8.6	41	18	−11	2	34	0.80	+0.46	0.40	8.0	3	5	3	20	nw.	O. A. Thompson
Energy	McLean		3	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.30	8.0	4	8	6	14	s.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.08	1.0	2	19	5	4	e.	M. E. Uggen
Fessenden	Wells	1,610	3	16.6	.....	37	†16	− 7	1	32	0.05	.....	0.05	0.5	1	7	6	15	ne.	G. T. Seymour
Forman	Sargent	1,249	23	22.6	+14.9	44	†18	− 6	2	40	3.00	+2.57	1.00	25.0	5	10	4	14	nw.	A. Maltby
Fullerton	Dickey	1,439	17	18.8	+9.5	37	17	− 9	2	31	2.90	+2.17	1.85	29.0	5	7	5	16	s.	F. O. Alin
Garrison	McLean	1,901	20	18.4	+9.9	34[b]	16	− 4[b]	† 8	35	0.25	−0.39	0.25	2.0	1	4	10	14	nw.	G. L. Robinson
Goodall	McKenzie		1	17.2	.....	34	17	− 5	15	25	0.75	.....	0.40	6.8	4	9	4	15	nw.	C. H. Layman
Grafton	Walsh	827	23	14.0	+8.1	36	17	−11	6	41	1.42	+0.88	0.84	14.1	4	8	8	12	n.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	19.3	.....	43	18	−12	2	35	1.40	.....	0.60	14.0	3	10	3	15	nw.	G. H. Lalck
Granville	McHenry	1,504	8	17.8	.....	37	16	− 5	† 4	30	0.15	.....	0.10	1.5	2	11	7	10	se.	W. A. Christianson
Hannah	Cavalier	1,568	10	14.5	.....	32	†16	−17	6	42	0.50	.....	0.20	5.0	3	9	2	17	s.	J. Moffatt
Hansboro	Towner	1,597	7	16.4	.....	39	15	−18	1	37	0.20	.....	0.20	2.0	1	10	5	13	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Lanxon
Hillsboro	Traill	901	9	18.2	.....	39	17	− 9	2	36	0.90	.....	0.50	9.0	4	10	6	12	nw.	F. E. Mayall
Howard	Williams	2,275	6	16.4	.....	33	†13	− 8	5	33	0.30	.....	0.30	3.0	1	17	4	7	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	17.0	+8.8	39	18	− 5	3	37	0.85	+0.25	0.50	.....	6	5	5	18	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	13.8	+9.8	36	21	−11	6	31	0.56	−0.09	0.25	13.8	7	5	13	10	nw.	C. R. Pettes
Lamoine	Kidder		7	17.0	.....	34	17	− 6	† 5	32	0.10	.....	0.10	1.0	1	11	1	16	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	13.0	.....	33	18	−12	6	33	0.40	.....	0.40	4.0	1	7	8	13	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	15.0	+9.3	40	18	− 7	6	35	0.50	+0.17	0.50	10.0	1	10	1	17	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	17.4	+8.1	38	†18	−20	† 1	48	4.20	+3.61	2.40	42.0	5	9	5	14	nw.	W. S. Adams
McHenry	Foster	1,509	5	16.3	.....	36	18	−12	6	35	0.50	.....	0.50	5.0	1	18	4	6	se.	P. E. Truden
McKinney	Renville	1,640	21	18.0	+13.3	40	†17	− 8	8	36	0.20	−0.11	0.20	2.0	2	4	13	11	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	18.4	.....	38	†18	−20	2	42	1.70	.....	1.20	17.0	5	8	7	18	nw.	E. W. Griggs
Maddock	Benson			18.1	.....	37	†16	− 8	6	38	0.00	.....	0.00	0	0	7	0	21	ne.	W. M. Jackson
Mandan	Morton	1,644	* 1	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	12	18.4	+10.8	38	†15	− 5	† 5	38	0.14	−0.38	0.07	1.5	2	12	1	15	se.	P. B. Anderson
Manning	Dunn			.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.08	1.5	2	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings		6	20.2	.....	40	†10	− 9	15	41	0.34	.....	0.28	4.7	4	9	5	14	nw.	S. P. Grane
Marstonmoor	Stutsman		6	17.5	.....	38	17	−13[a]	7	44[a]	0.05	.....	0.05	0.5	1	7	6	15	se.	H. H. McCumber
Mayville	Traill	975	19	17.4	+9.0	39	18	− 7	† 2	31	1.11	+0.71	0.60	.....	5	10	3	15	nw.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Kidder
Minor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	2.27	.....	0.87	16.9	4	12	6	10	s.	Hj. Edman
Minot	Ward	1,557	19	16.0	+7.7	40	16	− 8	16	48	0.20	−0.30	0.10	2.0	2	7	5	16	ne.	B. L. Faris
Minto	Walsh	820	22	15.5	+9.6	39	18	−10	6	38	1.27	+0.71	0.87	.....	2	15	3	10	s.	S. S. Marsh
Mott	Hettinger	2,424	8	20.0	.....	44	15	− 8	14	41	0.54	.....	0.16	4.5	5	7	6	15	se.	O. H. Opland
Napoleon	Logan	1,955	23	17.8	+11.0	39	18	−13	2	40	0.15	−0.30	0.10	2.0	2	8	0	20	s.	C. J. Hoof
New England	Hettinger	2,400	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly
New Rockford	Eddy	1,531	4	15.2	.....	50	28	− 5	14	42	0.07	.....	0.05	0.7	2	7	4	17	nw.	H. H. Maxwell
New Salem	Morton	2,163	10	20.1	+9.5	38	†10	− 2	15	32	0.16	−0.20	0.10	1.6	3	3	15	10	nw.	J. Christiansen
Orange	Adams	2,586	6	19.8	.....	45	9	− 7	15	38	0.00	.....	0.00	0	0	9	7	12	se.	J. E. Goforth
Oriska	Barnes	1,270	10	16.9	+7.6	41	18	− 6	7	43	0.15	−0.17	0.15	3.0	2	.....	.....	.....	n.	J. J. Taylor
Park River	Walsh	998	11	14.7	+8.7	37	18	− 7	2	35	0.47	+0.02	0.35	4.7	2	11	7	10	nw.	G. M. Hargrave
Pembina	Pembina	789	41	14.2	+12.4	38	18	−15	1	42	1.50	+0.75	0.60	12.0	5	1	11	16	ne.	C. W. Shumaker
Power	Richland	1,020	23	19.4	+11.0	42	18	− 9	1	31	1.20	+0.43	0.90	16.0	3	6	5	17	se.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.34	.....	0.30	3.4	2	3	13	12	nw.	C. Frank
Ranger	Billings	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.20	8.9	5	12	4	12	nw.	C. M. Hubbard
Steele	Kidder	1,857	18	20.0	+13.2	48	16	− 2	† 7	28	T.	−0.47	T.	T.	0	9	5	14	nw.	H. S. Wood
Towner	McHenry	1,482	13	17.4	+11.9	35	16	− 8	7	37	T.	−0.48	T.	T.	0	8	6	14	se.	B. Bagley
Turtle Lake	McLean	1,899	3	18.8	.....	35	16	− 3	15	35	0.00	.....	0.00	0	0	6	5	17	s.	E. J. Jones
University	Grand Forks	830	23	15.9	+8.6	39	18	− 9	1	30	1.27	+0.77	0.71	12.2	7	12	4	12	nw.	U. S. W. B.
Walhalla	Pembina	962	21	19.6	+9.2	41	18	− 5	6	41	1.36	+0.81	0.56	10.0	3	7	5	16	se.	F. E. Smith
Walhalla	Pembina	966	8	15.0	.....	38	18	− 8	5	32	1.00	.....	0.40	10.0	5	19	1	5	n.	L. Del. Lee
Washburn	McLean	1,734	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	9	16.0	.....	32	†17	−10	5	37	T.	.....	T.	T.	0	12	7	9	se.	C. M. Condit
Williston	Williams	1,875	36	18.6	+10.7	40	17	− 8	7	37	0.18	−0.29	0.10	1.3	2	4	5	19	se.	U. S. W. B.
Willow City	Bottineau	1,471	23	14.6	+11.2	33	17	−15	5	40	0.55	+0.15	0.50	5.5	2	7	8	13	se.	M. A. Ostby
Zap	Mercer		2	17.6	.....	35	10	− 9	15	44	0.12	.....	0.06	3.5	1	5	6	17	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	18.8	+11.8	38	17	− 5	6	26	1.88	+1.15	1.25	16.5	6	10	6	12	n.	U. S. W. B.
Averages				17.4	+9.9	50	28	−20	† 1	48	0.62	+0.12	24.0	6.1	3	9	5	14	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], c, appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for February, 1915.

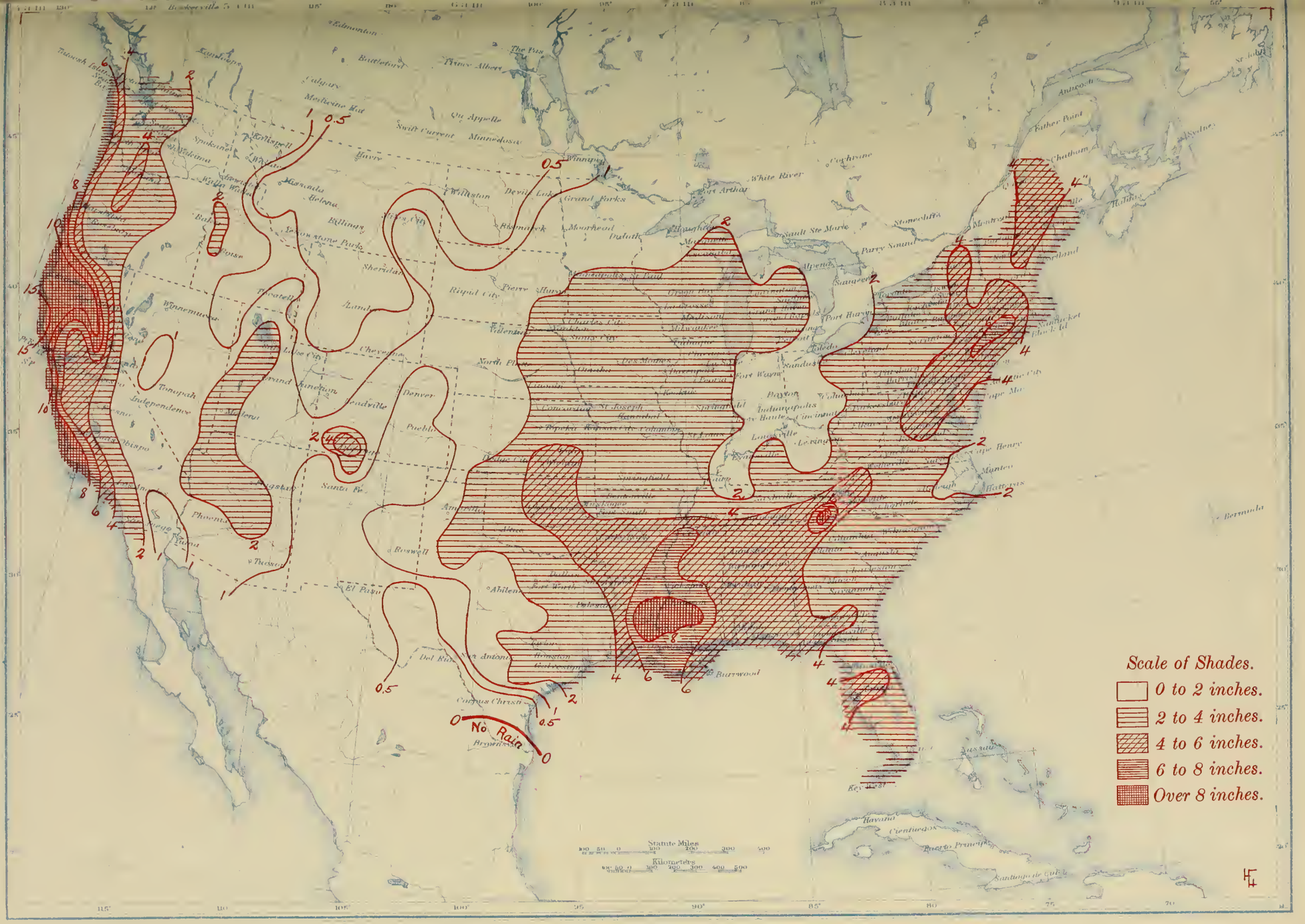
Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red			T.		T.		T.	T.	T.	T.			.60	.10	T.																	0.70
Aplin	Knife				.10	.05								.05						T.	T.	T.	.05										0.25
Ashley	Missouri				.20									.80														.30					1.30
Beach	Lit. Missouri				.14																					T.	T.						0.14
Berthold Agency	Missouri				.19										T.							T.	T.										0.19
Bismarck ***	Missouri	T.	T.	T.	.03							T.	T.		T.					T.	T.	T.	T.		T.		T.	T.					0.03
Bottineau ‖ ‖	Mouse	T.			T.	.07				T.				T.		.01								.10									0.18
Bowbells ‖ ‖	Mouse				.10	.24																											0.34
Bowman	Grand				.30										.30																		0.60
Buford	Missouri				.30																	.10											0.40
Cando	Sheyenne					.12																											0.12
Carson	Heart				T.																						T.						T.
Colgate	Sheyenne				T.	.20		T.							.20	1.00																	1.40
Crosby	Mouse																			T.			T.	T.									T.
Devils Lake ***	Sheyenne	T.		.03	.07	.11									.03					T.		T.	T.		T.	T.							0.24
Dickinson	Heart			.05	.07										T.								.02				.01						0.15
Donnybrook	Mouse				.12	.05									T.																		0.17
Dunseith	Mouse				T.																												T.
Eckman	Mouse			.10	.30	.50									T.							T.	T.										0.90
Edgeley	James				.20										.40								T.				.20						0.80
Energy	Missouri			.30	.20								T.		T.		T.	T.		T.		T.	T.		T.		.20		.10				0.80
Epping	Missouri				.07							T.										.08											0.15
Essendeu ‖ ‖	James	T.	T.			.05						T.										T.	T.	T.									0.05
Forman	Sheyenne				.20	.20				T.	T.			.60	1.00	1.00																	3.00
Fullerton	James			T.	.07	.50								.40	1.85													.08	T.				2.90
Garrison	Missouri	T.		.25	T.																						T.						0.25
Goodall	Missouri			.10	.40	.20																.05											0.75
Grafton ‖ ‖	Red					.30				.02					.84	.26																	1.42
Grand Rapids	James				.20										.60	.60																	1.40
Granville	Mouse			T.	.10	.05									T.								T.										0.15
Hannah	Pembina			T.	.20	.10									.20								T.										0.50
Hansboro	Red			T.		.20									T																		0.20
Hettinger	Grand																																
Hillsboro	Red				T.	.20						.10	.50	.10																			0.90
Howard	Missouri				.30																												0.30
Jamestown ‖ ‖	James	.05			*	.20						.10		*	.50																		0.85
Lakota	Sheyenne	T.		.04	.02	.12	T.		.04					T.	.25	.08				T.		T.	.01										0.56
Lamoine	Missouri									.10												T.	T.										0.10
Langdon ‖ ‖	Pembina	T.	T.	T.	T.									T.	.40							T.				T.	T.						0.40
Larimore ‖ ‖	Red				T.										.50					T.		T.											0.50
Lisbon ‖ ‖	Sheyenne	T.				.30	.40							.10	1.00	2.40																	4.20
McHenry	James			T.	T.	T.								T.	.50																		0.50
McKinney	Mouse			*	.20										T.																		0.20
McLeod	Sheyenne				*	.20	.30							*	1.20																		1.70
Maddock	Sheyenne																																0.00
Mandan	Missouri	T.			T.							T.	T.							T.	T.						T.						T.
Manfred	Sheyenne	T.			.07	.07																T.	T.										0.14
Manning	Knife				.07																	.08											0.15
Marmarth	Lit. Missouri			T.	*	.28									.02						T.						.04						0.34
Marstonmoor	James	T.	T.	T.	T.	.05						T.			T.						T.	T.	T.		T.	T.		T.					0.05
Mayville	Red			.01	.05	.25								.20	.60																		1.11
Melville	James																																
Milnor	Red				.30	.30					T.			.80	.87						T.												2.27
Minot ‖ ‖	Mouse			.10	.10																												0.20
Minto	Red					.40									.87																		1.27
Mott	Cannon Ball				.16	.02																.12				.11	.13					0.54
Napoleon ‖ ‖	Missouri					.05								T.														.10					0.15
New England	Cannon Ball																																
New Rockford	James							T.	.02		T.			T.	.05																		0.07
New Salem	Heart				.04	.02									T.								.10										0.16
Orange	Cannon Ball																																
Oriska	Sheyenne	T.													.15											T.		T.					0.15
Park River	Red			T.	T.	.12								T.	.35	T.			T.	T.						T.			T.				0.47
Pembina ‖ ‖	Red					.20										.40	.60		.22	.08													1.50
Power	Sheyenne					.30								*	.90																		1.20
Powers Lake	Missouri				.30										.04									T.									0.34
Ranger	Lit. Missouri			.02	.20										.02							.01					.01						0.26
Reeder	Missouri			T.	T.											T.				T.		T.	T.			T.	T.	T.					T.
Towner	Mouse				T.																	T.	T.	T.	T.								T.
Turtle Lake	Missouri																																0.00
University	Red			.04	.10	.40	T.		.01					.16	.55					.01													1.27
Wahpeton ‖ ‖	Red					.40								.56	.40																		1.36
Walhalla	Pembina			.10	.10	.40	.10								.30																		1.00
Washburn	Missouri																																
Westhope	Mouse				T.																												T.
Williston ***	Missouri			T.	.10	T.						T.			T.						T.	.08	T.		T.	T.	T.						0.18
Willow City	Mouse	T.		T.	.05	.50							T.										T.		T.	T.							0.55
Zap	Knife				.03										.06						.02					.01							0.12
Moorhead, Minn ***	Red			T.	.28	.12		.01						1.10	.36					.01													1.88

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	20	21	22	23	17	18	23	29	7	23	26	25	25	25	29	12	36	43	29	34	64	32	26	29	31	32	32	—				[a]25.7
	Minimum	-1	-9	-9	17	0	12	-6	-1	-1	5	12	0	-2	20	5	-7	-8	22	20	21	32	22	16	5	5	3	2	5				6.4
Aplin	Maximum	10	28	25	23	15	28	30	31	36	25	22	30	28	31	—	34	33	32	28	30	30	27	27	25	24	27	28	34				[a]27.4
	Minimum	8	0	15	12	5	5	-5	-4	0	5	12	10	14	-6	—	-2	12	22	20	23	23	17	14	14	18	14	-2	18				[a] 9.7
Ashley	Maximum	18	18	22	25	22	26	24	20	23	33	21	21	23	24	20	29	34	39	30	32	32	30	30	27	23	22	24	28				25.7
	Minimum	-2	-10	10	20	0	2	-1	-10	8	0	10	10	13	12	0	3	12	16	23	25	29	20	21	22	19	13	15	3				10.1
Beach	Maximum	20	31	23	19	19	16	23	31	26	25	28	27	29	31	26	39	41	30	27	27	25	26	30	36	22	23	28	26				27.0
	Minimum	5	14	10	10	8	-1	1	17	14	16	13	13	15	6	-9	9	13	10	15	23	20	20	21	18	8	16	13	8				11.6
Berthold Agency	Maximum	22	32	31	25	18	27	31	26	31	29	31	24	30	29	31	35	37	34	30	31	29	27	27	26	25	26	29	31				28.7
	Minimum	11	5	14	13	-1	-6	-8	-9	7	-4	0	9	3	16	-13	-7	9	10	18	24	23	18	20	8	19	14	-6	18				7.3
Bismarck	Maximum	20	30	27	26	16	29	33	29	31	37	23	20	26	27	32	36	35	36	28	31	31	26	29	25	24	28	28	35				28.5
	Minimum	4	1	16	11	1	6	4	0	14	3	12	16	15	11	1	5	16	22	23	24	25	19	20	20	20	11	17	20				12.8
Bottineau §§	Maximum	15	27	24	19	14	25	22	17	23	20	24	20	23	27	24	31	32	34	35	27	29	24	25	27	25	27	26	31				24.9
	Minimum	-10	-4	5	16	-12	-13	-6	-2	5	3	3	8	12	13	-5	-6	-4	13	10	14	23	13	15	19	22	12	7	16				5.9
Bowbells §§	Maximum	20	28	21	18	13	18	25	26	33	23	21	23	34	20	21	35	38	25	27	27	25	24	25	26	25	22	25	31				25.0
	Minimum	6	7	13	10	-10	-3	-3	-2	-8	5	5	13	12	10	-4	-1	6	12	10	12	20	10	13	15	20	12	5	4				6.8
Carson	Maximum	15	28	30	26	16	32	35	28	42	45	34	22	34	32	33	41	37	40	28	28	30	28	26	28	22	24	26	28				29.9
	Minimum	8	2	15	14	4	-2	-5	-8	10	4	12	15	12	15	-7	2	10	14	20	24	25	18	20	10	14	15	13	20				10.5
Crosby	Maximum																																
	Minimum																																
Devils Lake	Maximum	16	21	24	24	4	18	20	13	24	20	20	21	21	26	27	28	34	35	22	32	31	21	23	24	25	20	26	33				23.3
	Minimum	-6	2	16	3	-8	-8	-2	-5	3	15	7	-4	16	14	0	6	10	18	15	22	20	16	8	8	8	1	11	21				7.4
Dickinson	Maximum	21	29	22	21	19	30	32	30	39	39	32	26	34	28	31	43	40	37	26	27	32	28	29	28	21	21	26	29				29.3
	Minimum	12	9	14	14	3	6	0	4	3	3	11	14	11	15	-8	6	11	15	12	21	21	16	19	11	8	11	9	12				10.1
Donnybrook	Maximum	16	28	28	23	15	22	25	15	31	21	21	20	30	25	23	32	34	33	24	26	26	24	24	25	25	24	24	26				24.6
	Minimum	7	12	14	11	-7	6	2	-1	9	3	4	16	14	13	-5	3	12	20	6	22	21	12	17	14	21	11	-3	13				9.5
Dunseith	Maximum	15	27	22	23	4	23	21	16	21	23	24	18	19	27	23	33	32	34	23	26	28	22	26	26	26	27	25	30				23.7
	Minimum	-11	2	15	2	-10	-3	-3	-2	3	7	8	8	11	1	-5	-3	12	15	10	19	21	15	18	20	16	9	7	21				8.2
Edgeley	Maximum	21	19	25	27	22	28	28	22	26	34	23	22	22	26	25	30	35	41	32	31	31	30	28	27	26	22	24	31				27.1
	Minimum	4	-11	13	22	2	0	2	0	3	4	13	14	20	20	4	4	1	24	22	24	29	20	29	9	21	0	10	15				11.7
Fessenden §§	Maximum	18	26	26	24	9	26	26	20	25	30	22	21	20	26	28	37	37	33	27	33	29	26	28	26	26	29	34					26.5
	Minimum	-7	-4	5	9	-6	-6	-1	-1	-2	-1	5	10	13	15	-1	10	9	20	16	16	26	5	18	7	7	4	10	12				6.7
Forman	Maximum	24	27	34	36	36	27	30	22	39	39	30	34	29	—	36	26	43	44	37	35	42	44	41	34	34	34	34	34				34.3
	Minimum	0	-6	15	25	-4	-5	12	-4	-5	12	8	12	21	—	2	0	8	19	22	25	30	23	15	4	14	8	14	18				10.9
Fullerton	Maximum	17	22	27	28	23	25	22	15	26	25	20	22	23	26	25	19	37	36	33	32	32	32	32	26	26	24	27	29				26.1
	Minimum	5	-9	14	23	5	-4	-2	-5	6	4	10	14	21	20	5	-6	3	18	23	24	30	21	18	10	23	16	11	20				11.4
Garrison	Maximum	16	29	25	23	—	—	31	24	33	30	27	26	26	25	29	34	32	31	26	28	28	25	25	25	25	27	27	31				[b]27.2
	Minimum	6	-1	14	12	—	—	-3	-4	12	1	6	6	10	13	-4	-1	10	16	15	23	23	15	17	14	15	12	6	19				[b] 9.7
Grafton §§	Maximum	15	21	27	28	26	18	16	13	24	23	24	23	25	24	25	21	36	34	24	33	30	29	23	27	27	26	26	32				25.0
	Minimum	-8	-9	-3	19	-5	-11	-3	1	-5	5	13	-1	-1	17	4	6	-5	10	13	13	21	21	-1	-3	8	-4	-4	0				3.1
Granville	Maximum	20	30	25	25	12	24	20	22	33	20	24	25	25	22	30	37	32	32	25	30	30	25	30	28	30	28	28	30				26.5
	Minimum	2	4	20	-5	-4	0	-5	4	5	3	8	12	12	-5	5	12	14	18	14	25	18	18	19	20	7	5	15	15				9.1
Hannah	Maximum	12	20	23	24	9	15	30	20	21	26	21	19	24	23	25	32	32	32	25	28	29	28	25	25	23	15	24	30				23.6
	Minimum	-9	-5	9	5	-12	-17	-9	-10	-4	5	4	-6	12	12	-6	-10	11	20	8	11	16	12	7	0	10	-12	4	13				5.4
Hettinger	Maximum																																
	Minimum																																
Hansboro	Maximum	15	20	24	23	6	21	31	17	14	36	16	23	22	27	39	38	37	21	38	28	28	22	37	33	37	28	27	35				26.7
	Minimum	-18	-3	14	5	-12	-6	-6	-4	0	0	4	0	14	16	2	0	11	9	18	18	14	15	21	19	-4	2	20					6.0
Howard	Maximum	20	29	25	19	19	21	18	22	29	23	22	30	33	23	20	29	33	27	25	25	23	26	27	20	20	25	23	24				24.3
	Minimum	15	16	10	11	-8	5	5	5	6	10	8	12	14	3	-5	2	13	13	14	22	18	15	14	4	10	13	-7	0				8.5
Jamestown §§	Maximum	20	25	27	29	8	27	24	17	27	32	24	24	23	26	28	28	37	39	30	35	33	25	29	27	25	24	26	34				26.9
	Minimum	4	-4	-5	18	3	-3	0	-3	-2	6	4	10	12	19	3	2	0	15	18	19	25	20	15	6	7	2	2	6				7.1
Lakota	Maximum	14	19	24	24	14	15	15	12	22	22	20	21	21	23	22	23	27	34	26	30	36	22	22	25	25	20	14	29				22.2
	Minimum	-3	-5	14	10	-4	-11	-5	-7	-2	14	14	-3	16	21	-4	-8	10	16	15	19	22	18	2	-5	14	-5	2	10				5.5
Lamoine	Maximum	13	22	24	24	14	23	26	23	23	24	24	18	21	23	21	33	34	33	28	30	30	27	27	25	27	26	26	31				25.0
	Minimum	-4	-4	14	14	-6	0	-1	-6	8	-4	8	11	11	16	-4	-1	14	18	16	23	25	16	16	19	21	1	14	14				9.0
Langdon	Maximum	13	20	24	24	5	14	21	15	23	20	21	20	22	24	24	28	32	33	27	32	27	21	27	29	23	19	28	26				22.9
	Minimum	-8	-2	2	14	-8	-12	-5	-5	-2	15	11	-5	12	15	-2	-5	-1	12	11	19	17	15	-2	-3	16	-5	-5	-4				3.0
Larimore §§	Maximum	14	21	25	27	18	17	19	12	23	23	21	21	22	24	21	26	36	40	29	33	28	27	22	25	25	18	23	31				24.0
	Minimum	-6	-5	1	18	-1	-7	7	-3	-3	4	13	13	16	15	4	-6	1	20	11	14	27	20	1	1	13	-4	-4	8				6.0
Lisbon §§	Maximum	21	28	25	22	20	18	28	29	22	20	23	19	18	25	29	34	34	38	34	30	31	28	24	38	36	32	28	23				27.0
	Minimum	-20	-20	0	10	8	-5	-6	-8	-4	6	4	10	5	6	5	-4	26	29	24	24	20	14	14	18	18	19	16	6				7.7
McHenry	Maximum	19	22	27	20	12	23	20	15	24	24	22	24	22	25	29	27	35	36	26	33	32	24	24	26	25	20	28	34				24.9
	Minimum	0	-4	20	10	-4	-12	-2	-5	-4	12	10	-2	17	18	-3	0	8	24	14	21	23	19	15	6	13	-3	4	21				7.7
McKinney	Maximum	20	31	28	22	15	23	27	15	31	21	23	25	31	28	31	22	40	40	25	30	30	30	27	31	30	29	29	35				27.5
	Minimum	5	10	11	10	-5	3	-3	-8	0	0	3	17	14	12	-5	-6	7	20	-5	20	20	21	17	15	20	20	20	5				8.5
Manfred	Maximum	18	26	26	25	12	24	23	20	27	28	25	25	25	28	38	34	38	35	31	34	33	27	28	28	27	27	29	33				27.6
	Minimum	-3	-3	18	12	-5	-5	-5	-5	7	0	7	15	15	-2	0	0	12	21	16	24	24	18	19	23	20	3	13	21				9.3
Marmarth	Maximum	22	24	24	21	22	30	29	25	38	40	34	36	33	25	32	37	40	35	20	28	26	30	34	37	28	24	26	30				29.6
	Minimum	14	14	8	13	5	7	3	0	7	6	14	16	20	13	-9	8	15	20	—	15	21	15	20	15	13	16	0	1				[a]10.7
Minot §§	Maximum	25	32	24	26	17	27	29	26	36	22	26	23	36	27	28	40	34	32	27	28	30	25	26	26	32	27	28	31				28.2
	Minimum	4	5	6	14	-5	-6	-7	-5	-2	1	1	6	5	6	-7	-8	-7	10	8	10	21	12	13	10	4	6	-1	5				3.9
Mott	Maximum	14	25	31	32	22	35	34	35	38	40	32	39	30	33	32	37	40	44	34	28	27	28	28	30	34	29	31	31				31.5
	Minimum	2	3	11	15	3	0	1	1	0	6	11	10	3	-8	6	12	11	15	18	13	18	17	15	12	5	16	10	12				8.5
Napoleon §§	Maximum	23	25	27	25	15	27	26	27	24	35	20	22	24	25	25	37	38	39	28	34	31	25	28	25	24	25	30	34				27.4
	Minimum	7	-13	3	15	-1	0	-3	-5	9	-1	6	5	12	15	-5	-3	15	18	19	21	24	17	17	18	18	10	9	4				8.2
New England	Maximum																																
	Minimum																																
New Rockford	Maximum	15	20	16	20	18	20	26	29	27	30	22	24	19	14	17	17	23	30	32	35	34	37	34	48	42	46	45	50				28.2
	Minimum	-2	1	-3	4	-3	-2	5	7	-2	5	-4	2	-1	-5	-2	0	2	3	4	6	4	-3	6	8	7	6	10	8				2.2
New Salem	Maximum	20	30	25	25	18	29	32	30	30	38	35	28	26	30	30	34	38	38	32	27	28	28	27	27	23	24	27	32				29.0
	Minimum	8	5	15	12	2	6	2	4	0	6	12	16	13	14	-2	6	14	22	16	22	22	16	15	12	12	11	14	19				11.2
Orange	Maximum	14	23	32	21	20	33	29	28	45	39	28	25	36	25	25	34	40	42	28	29	25	26	36	21	20	25	26					28.7
	Minimum	0	-2	15	13	5	5	0	10	7	5	12	15	17	11	-7	9	10	20	20	20	24	19	16	15	14	9	15	10				11.0
Oriska	Maximum	11	16	22	28	28	—	20	20	16	27	23	20	24	23	20	21	38	41	39	33	32	27	28	28	28	24	28	33				[a]25.5
	Minimum	-3	-5	4	18	1	—	-6	-2	-2	6	11	6	18	16	-2	0	5	29	9	18	26	21	16	3	15	0	5	18				[a] 8.3
Park River	Maximum	12	20	26	25	10	17	21	10	22	20	21	20	22	25	25	23	34	37	26	31	32	24	22	28	24	17	21	31				23.1
	Minimum	-6	-7	16	9	-2	-5	0	-3	-5	13	13	2	15	18	2	-1	1	2	13	20	23	19	3	3	6	1	-3	9				6.3
Pembina §§	Maximum	18	15	28	30	12	-2	32	18	24	26	20	28	28	22	22	20	32	38	30	28	30	28	24	30	24	31	24	18				24.2
	Minimum	-15	-2	10	22	-4	-2	-10	-2	-2	15	14	8	5	18	0	-8	-5	30	8	2	8	12	-8	-5	12	5	9	5				4.3
Power	Maximum	22	24	26	29	20	12	24	24	31	31	23	25	25	25	24	30	35	42	36	41	41	30	29	28	31	29	30	36				28.7
	Minimum	-9	15	15	20	3	-7	0	-5	1	12	12	18	13	19	4	1	17	19	19	31	26	19	13	5	1	2	10	13				10.2
Towner	Maximum	17	29	28	25	15	22	25	17	30	23	23	22	20	27	28	35	34	34	31	31	30	29	26	27	27	27	28	34				26.4
	Minimum	-1	1	15	1	-7	-7	-8	-7	7	2	9	8	13	19	-7	-2	13	17	13	23	25	17	19	20	21	1	9	2				8.5
Turtle Lake	Maximum	16	27	26	27	14	26	29	27	28	30	27	27	25	26	28	35	34	32	26	29	30	27	28	27	26	29	29	32				27.1
	Minimum	6	0	15	13	-1	0	1	-1	12	1	8	16	12	16	-3	0	12	19	12	5	25	17	24	19	20	11	11	20				10.4
University	Maximum	15	21	29	29	9	14	17	16	27	24	23	20	26	25	24	20	38	39	24	34	32	29	24	24	29	23	29	32				24.9
	Minimum	-9	-5	18	9	-4	-8	11	-4	-2	10	11	-2	20	19	2	-5	8	24	17	21	25	14	4	-2	8	0	-1	13				6.9
Wahpeton §§	Maximum	15	21	27	36	17	10	19	14	29	31	25	29	23	30	21	29	38	41	34	40	37	31	29	27	28	31	19	35				27.4
	Minimum	-3	-3	15	17	0	-5	5	5	2	18	15	16	23	4	11	-2	15	32	25	24	30	25	20	3	8	10	16	2				11.7
Washburn	Maximum																																
	Minimum																																
Westhope	Maximum	16	29	30	24	11	23	25	21	27	21	22	20	24	26	27	28	32	30	27	28	29	28	27	26	27	28	27	32				25.5
	Minimum	-4	4	15	9	-10	-8	-8	-9	5	4	4	14	16	6	-9	-9	10	16	5	21	23	14	17	18	17	9	1	15				6.6
Williston	Maximum	27	36	26	18	21	29	15	32	30	26	25	25	31	25	31	38	40	28	29	28	26	22	31	20	23	24	25	31				27.2
	Minimum	16	20	12	13	-1	5	-8	5	8	4	9	21	15	6	-6	3	14	18	18	23	21	19	17	8	17	6	-4	1				10.0
Willow City	Maximum	16	26	27	14	1	18	20	15	26	26	28	19	29	18	26	29	33	30	30	29	24	27	26	27	28	23	26	29				23.9
	Minimum	-17	-2	12	12	-15	-8	-14	-13	-1	4	-5	3	14	-2	-10	-11	10	17	18	20	23	18	18	21	22	8	4	22				5.3

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
No Rain
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MARCH, 1915.

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 30, 1915.

Departure of the Mean Temperature from the Normal, March, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

Vol. XXV. Bismarck, N. D., March, 1915. No. 3.

GENERAL SUMMARY.

Exceptionally mild and pleasant weather prevailed throughout the entire State. The temperature averaged above the normal, there was considerably more than the usual sunshine, there were no severe storms, and the precipitation was deficient. With the one exception of February, the average precipitation was below the normal every month since June of last year, and as a result the ground at the close of March was in a rather dry condition. The temperature at the opening of the month was considerably below normal, temperatures below zero being recorded in all parts of the State during the first three days. The second and third decades, however, were warm, and the mean temperature of the month was above normal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 30.27 inches. The highest was 30.68 inches at Bismarck, Burleigh County, on the 26th; the lowest was 29.59 inches at Devils Lake, Ramsey County, on the 23d.

TEMPERATURE.

The mean temperature for the State was 22.9°, or 0.6° above the normal, and 2.6° lower than the mean for March, 1914. The highest mean reported was 26.6° at Steele, Kidder County; the lowest was 17.8° at New England, Hettinger County. The highest temperature reported was 63° at Hansboro, Towner County, on the 10th, and at Minot, Ward County, on the 23d; the lowest was −23° at Walhalla, Cavalier County, on the 2d. Usually the highest temperature occurred on the 22d, and the lowest on the 2d. The greatest monthly range of temperature was 78° at Minot, Ward County; the least was 47° at McHenry, Foster County. The greatest daily range was 53° at McLeod, Ransom County, on the 27th. The distribution of temperature was uniform, both geographically and throughout the month. The first decade was the coldest, and the last the warmest.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 78 per cent, the average at 7 a. m. being 85 percent, and at 7 p. m. 70 per cent.

PRECIPITATION.

The average precipitation for the State was 0.22 inch, or 0.65 inch below the normal, and 0.68 inch less than the average for March, 1914. The greatest monthly amount reported was 1.37 inches at Wahpeton, Richland County; there was none at Dunseith, Rolette County; Epping, Williams County; Goodall, McKenzie County; Lisbon, Ransom County; Plaza, Mountrail County, and Westhope, Bottineau County. Thirteen stations reported only traces of precipitation. The greatest amount recorded in any twenty-four consecutive hours was 0.86 inch at Milnor, Sargent County, on the 5th. The greater portion of the precipitation occurred in the form of snow, the average fall for the State being 2.0 inches. The average number of days with 0.01 inch or more of precipitation was two. There were two stormy periods, the 3d to 5th, inclusive, and from the 19th to the 24th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.8 miles. The greatest wind movement was 8,356 miles at Devils Lake, an average of 11.2 miles per hour; the least was 4,435 miles at Moorhead, an average of 6.0 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 40 miles per hour from the north at Devils Lake on the 19th, considering only the records of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 16, partly cloudy 6, and cloudy 9.

ERRATA.

January, 1915: Page 4, University, monthly mean and departure should be 1.8°, -2.2°. Page 6, University, maximum temperature on the 20th should be 1°, and mean maximum 11.1.

February, 1915: Page 12, Bottineau, date of highest temperature should be 19th; Dunseith, monthly mean and departure should be 15.4°, +11.7; Goodall, Grand Rapids and Ranger wind directions should be southeast; Minto, highest temperature and date should be 45° on 19th; Mott, date of highest temperature should be 18th; Park River, monthly mean and departure should be 17.1°, +7.8°; Pembina, total snowfall should be 12.2 inches; Willow City, lowest temperature and date should be −17° on 1st. Page 14, Dunseith, mean minimum should be 7.2°; Oriska, mean maximum should be 25.9°.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cldy days.	
1892...	24.2	+1.9	66	−35	0.83	−0.04	4	12	8	11	se.
1893...	13.9	−8.4	68	−35	0.99	+0.12	5	13	7	11	nw.
1894...	24.8	+2.5	69	−22	1.45	+0.58	5	12	9	10	nw.
1895...	23.2	+0.9	75	−35	0.16	−0.71	2	16	10	5	nw.
1896...	15.7	−6.6	70	−35	1.18	+0.31	8	12	10	9	nw.
1897...	11.9	−10.4	58	−48	1.27	+0.40	7	15	7	9	nw.
1898...	21.3	−1.0	79	−24	0.79	−0.08	5	13	8	10	nw.
1899...	7.5	−14.8	72	−30	1.00	+0.13	5	12	10	9	nw.
1900...	20.3	−2.0	77	−24	1.01	+0.14	5	14	7	10	nw.
1901...	25.3	+3.0	85	−32	0.86	−0.01	5	15	8	8	nw.
1902...	27.4	+5.1	65	−25	2.73	+1.86	8	10	6	15	nw.
1903...	22.1	−0.2	80	−24	0.55	−0.32	3	12	6	13	nw.
1904...	18.2	−4.1	64	−26	1.33	+0.46	5	11	6	14	nw.
1905...	32.5	+10.3	81	−25	0.87	0.00	4	11	8	12	nw.
1906...	18.5	−3.8	67	−34	0.38	−0.49	3	15	6	10	nw.
1907...	23.1	+0.8	83	−20	0.70	−0.17	4	14	9	8	nw.
1908...	21.1	−1.2	68	−31	1.16	+0.29	8	10	9	12	nw.
1909...	24.0	+1.7	61	−24	0.32	−0.55	4	10	9	12	nw.
1910...	41.3	+19.0	90	− 7	0.97	+0.10	3	18	8	5	nw.
1911...	30.6	+8.3	78	−18	0.24	−0.63	2	16	10	5	nw.
1912...	15.4	−6.9	65	−28	0.33	−0.54	3	17	8	6	nw.
1913...	17.2	−5.1	70	−31	0.81	−0.06	6	12	9	10	nw.
1914...	25.5	+3.2	76	−20	0.90	+0.03	5	10	9	12	nw.
1915...	23.3	+1.0	63	−23	0.22	−0.65	2	16	6	9	nw.

Climatological Data for March, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	25.3	+1.8	48	†27	− 5	† 1	43	0.60	−0.04	0.50	6.0	2	12	1	18	n.	E. T. Carley
Aplin	Oliver	.....	8	22.4[h]	.....	48[h]	†22	− 8[h]	8	41[h]	0.13	.....	0.13	T.	1	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	21.8	−0.3	46	22	− 7	2	34	1.00	−0.36	0.40	10.0	4	19	3	9	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	22.1	.....	47	22	−10	† 7	46	0.19	.....	0.10	.....	4	18	5	8	nw.	D. J. Steiner
Berthold Agency	McLean	2,082	21	21.8	−3.2	50	23	−13	8	46	0.05	−0.91	0.05	0.5	1	11	8	12	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	24.0	+1.9	50	22	− 1	8	34	0.35	−0.69	0.17	3.3	6	15	7	9	nw.	U. S. W. B.
Bottineau	Bottineau	1,638	23	24.4	+6.7	54	23	− 8	2	40	0.03	−0.93	0.01	.....	3	15	6	10	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	22.4[a]	.....	53[a]	23	−11[a]	2	42[a]	0.03	.....	0.03	.....	1	16	2	13	.....	G. H. Phelps
Bowman	Bowman	.....	1	23.3	.....	51	23	− 7	8	41	T.	.....	T.	0	0	20	0	11	.....	L. S. Diehl
Buford	Williams	1,944	36	22.2	−1.4	55	23	−11	8	41	0.02	−0.53	0.02	0.2	1	14	8	9	ne	C. H. McCune
Cando	Towner	1,488	14	25.6[a]	+3.8	59[a]	27	− 4	2	44[a]	0.01	−0.75	0.01	T.	1	25	0	6	nw.	E. T. Judd
Carson	Morton	.....	3	21.6	.....	48	†17	−10	8	41	0.20	.....	0.20	2.0	1	17	6	8	n.	D. L. Basquin
Colgate	Steele	1,177	1	25.5	.....	50	11	− 8	2	37	0.60	.....	0.50	6.0	2	19	4	8	ne.	H. P. Rice
Crosby	Divide	1,954	8	22.4	.....	49	21	− 5	2	35	0.05	.....	0.05	0.5	1	22	0	9	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	23.8	+5.3	51	23	− 6	2	31	0.09	−0.92	0.04	0.6	5	13	8	10	n.	U. S. W. B.
Dickinson	Stark	2,543	23	21.5	−3.2	48	23	−11	8	37	0.21	−0.69	0.10	2.1	4	14	8	9	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	22.6	−0.7	52	23	−15	2	36	T.	−0.89	T.	T.	0	23	1	7	n.	Geo. Mitchell
Dunseith	Rolette	1,682	19	23.3[c]	+4.5	52[c]	23	− 9[c]	2	38[c]	0.00	−0.98	0.00	0	0	.....	.....	.....	nw.	C. E. Goodsell
Eckman	Bottineau	.....	10	25.6	.....	57	23	−15	2	44	0.07	.....	0.04	T.	2	20	5	6	n.	J. Nussbaum
Edgeley	LaMoure	1,468	14	24.1	−3.1	48	22	− 4	2	32	0.20	−0.82	0.10	2.0	3	13	6	12	nw.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.20	.....	3	15	9	7	nw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	21	6	4	nw.	M. E. Uggen
Fessenden	Wells	1,610	3	24.2	.....	49	21	− 2	2	37	0.25	.....	0.16	1.0	3	16	8	7	nw.	G. T. Seymour
Forman	Sargent	1,249	23	26.1[a]	+0.5	53[a]	23	−10[a]	7	44[b]	0.10	−0.82	0.10	1.0	1	16	3	12	nw.	A. Maltby
Fullerton	Dickey	1,439	17	22.6	−3.0	44	†22	− 6	2	34	0.59	−0.72	0.30	5.8	3	6	10	15	n.	F. O. Alin
Garrison	McLean	1,901	20	22.1	+0.3	52	23	− 8	2	39	0.24	−0.79	0.09	1.8	3	17	8	6	nw.	G. L. Robinson
Goodall	McKenzie	...	1	20.8	.....	48	23	− 8	2	38	0.00	.....	0.00	0	0	18	5	8	w.	C. H. Layman
Grafton	Walsh	827	23	23.9[a]	+4.7	50[a]	22	− 9	2	34[a]	0.10	−0.64	0.04	0.8	3	20	5	6	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	24.0	.....	47	†22	− 6	2	40	0.40	.....	0.40	4.0	1	15	3	13	nw.	G. H. Leick
Granville	McHenry	1,504	8	24.0	.....	53	24	− 7	1	40	0.05	.....	0.05	T.	1	16	5	10	se.	W. A. Christianson
Hannah	Cavalier	1,568	10	21.2	.....	54	23	−19	2	37	0.10	.....	0.10	1.0	1	16	5	10	nw.	J. Moffatt
Hansboro	Towner	1,597	7	25.6	.....	63	10	−12	2	52	T.	.....	T.	T.	0	22	5	4	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogard
Hillsboro	Traill	901	9	25.2	.....	46	†22	− 5	2	37	0.47	.....	0.30	4.0	4	17	5	9	n.	F. E. Mayall
Howard	Williams	2,275	6	18.4	.....	44	22	−10	2	32	0.03	.....	0.03	T.	1	18	7	6	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	24.8	+2.0	49	22	− 5	3	45	0.40	−0.71	0.20	4.0	4	14	3	14	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	21.4[c]	+1.5	46[c]	22	−18[c]	2	38[c]	0.14	−0.47	0.04	3.0	6	12	13	3	nw.	C. R. Pettes
Lamoine	Kidder	.....	7	21.6	.....	48	22	− 6	2	35	0.30	.....	0.20	3.0	2	17	3	11	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	22.0	.....	49	3	−20	2	38	1.00	.....	0.70	10.0	2	15	5	11	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	23.9	+2.7	46	†22	−12	2	32	0.06	−0.77	0.05	0.6	2	20	2	9	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	19.3	−8.4	55	28	−10	2	50	0.00	−0.68	0.00	0	0	18	7	6	nw.	W. S. Adams
McHenry	Foster	1,509	5	24.2	.....	48	22	1	25	32	0.35	.....	0.35	T	1	19	7	5	ne.	P. E. Truden
McKinney	Renville	1,640	21	23.3	+4.5	54	23	−22	2	48	T.	−0.84	T.	T.	0	8	14	9	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	20.0	.....	50	27	−15	9	53	0.70	.....	0.40	7.0	2	16	9	6	nw.	E. W. Griggs
Maddock	Benson	.....	.....	25.7	.....	53	†22	− 6	2	40	T.	.....	T.	T.	0	17	0	14	nw.	W. M. Jackson
Mandan	Morton	1,644	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	12	24.9	+0.7	52	23	− 2	25	35	0.17	.....	0.07	1.3	3	15	8	8	nw.	P. B. Anderson
Manning	Dunn	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.11	.....	0.11	.....	1	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings	.....	6	23.1	.....	49	22	− 5	7	38	0.03	.....	0.02	1.7	2	16	5	10	.....	S. P. Grane
Marstonmoor	Stutsman	.....	6	23.6[a]	.....	50[a]	22	− 4[a]	† 2	39[a]	0.06	.....	0.02	0.6	3	18	6	7	ne.	H. H. McCumber
Mayville	Traill	975	19	25.5	+2.3	48	22	− 7	2	45	0.45	−0.23	0.15	.....	6	18	4	9	nw.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	0.86	.....	0.86	5.0	1	13	11	7	n.	Hj. Edman
Minot	Ward	1,557	19	23.5	+3.2	63	23	−15	2	47	0.35	−0.40	0.35	.....	1	12	9	10	sw.	W. I. Faris
Minto	Walsh	820	22	24.6	+3.5	46	†12	−13	2	37	0.08	−0.82	0.05	.....	2	19	3	9	n.	S. S. Marsh
Mott	Hettinger	2,424	8	21.4	.....	53	23	−12	8	43	0.86	.....	0.18	7.0	10	11	7	13	nw.	O. H. Opland
Napoleon	Logan	1,955	23	20.9	−0.5	50	22	− 5	† 2	44	0.18	−0.73	0.08	2.0	3	14	2	15	nw.	C. J. Hoof
New England	Hettinger	2,400	21	17.8	−6.7	44	23	−13	8	40	T.	−0.82	T	T.	0	12	6	13	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	21.2	−4.0	48	23	− 4	25	37	0.35	−0.51	0.10	3.5	4	14	6	11	nw.	J. Christiansen
Orange	Adams	2,586	6	20.3	.....	55	23	−15	8	42	0.20	.....	0.20	4.0	1	15	7	9	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	24.8	−2.0	46	27	− 9	2	38	0.20	−0.33	0.20	4.0	1	10	13	8	n.	J. J. Taylor
Park River	Walsh	998	11	24.9	+2.3	50	†23	−11	2	31	T.	−0.61	T.	T.	0	13	13	5	nw.	G. M. Hargrave
Pembina	Pembina	789	41	20.0	+3.9	48	22	− 8	2	38	0.18	−0.67	0.06	.....	5	14	8	9	e.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	15	9	7	nw.	J. A. Johnson
Power	Richland	1,020	23	23.6[c]	0.0	45[c]	17	− 9[c]	2	34[c]	0.20	−0.51	0.10	2.0	2	14	7	7	nw.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	11	13	7	nw.	C. Frank
Ranger	Billings	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.10	2.0	2	15	4	12	nw.	C. M. Hubbard
Steele	Kidder	1,857	18	26.6	+5.9	50[b]	22	1	2	48[a]	T.	−0.84	T.	T	0	21	7	3	nw.	H. S. Wood
Towner	McHenry	1,482	13	26.2	+9.6	53	22	− 7	2	42	T.	−1.01	T.	T.	0	16	10	5	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	24.9	.....	49	27	− 4	2	43	T.	.....	T.	T.	0	12	12	7	nw.	E. J. Jones
University	Grand Forks	830	23	24.7	+1.9	47	22	− 8	2	28	0.18	−0.55	0.08	0.8	5	20	5	6	nw.	U. S. W. B.
Wahpeton	Richland	962	21	23.8	−3.0	48	27	− 5	25	40	1.37	+0.41	0.53	6.0	3	16	5	10	nw.	F. E. Smith
Walhalla	Pembina	966	8	23.6[a]	.....	50[a]	21	−23[a]	2	38[b]	0.15	.....	0.10	1.5	2	20	8	3	n.	I. DeL. Lee
Washburn	McLean	1,734	17	25.4[d]	−0.1	51[e]	†22	− 2[d]	2	35[d]	0.08	−0.63	0.08	T.	1	.....	.....	.....	nw.	A. Wacker
Westhope	Bottineau	1,508	9	24.2[i]	.....	45[i]	† 9	−18[i]	2	39[i]	0.00	.....	0.00	0	0	.....	.....	.....	.....	C. M. Condit
Williston	Williams	1,875	36	21.6	0.0	50	23	− 4	10	40	0.13	−0.55	0.07	0.8	5	11	11	9	n.	U. S. W. B.
Willow City	Bottineau	1,471	23	22.9	+4.8	50	22	−11	2	37	T.	−0.70	T.	T.	0	16	10	5	nw.	M. A. Ostby
Zap	Mercer	.....	2	21.6	.....	48	23	− 5	10	41	0.10	.....	0.03	2.1	5	14	7	10	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	23.6	+2.2	46	22	− 3	2	30	0.57	−0.57	0.46	5.7	4	18	4	9	n.	U. S. W. B.
Averages				22.9	+0.6	63	10	−23	2	53	0.22	−0.65	0.86	2.0	2	16	6	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for March, 1915.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red					.50	T.							T.	T.				T.	.10	T.			T.	T.								0.60
Aplin	Knife																T.			T.				.13	T.							0.13
Ashley	Missouri			.10	.30	.40														T.	.20			T.								1.00
Beach	Lit. Missouri		T.	.02	T.	.03							T.				.10	T.							.04							0.19
Berthold Agency	Missouri			T.		.05							T.								T.			T.								0.05
Bismarck ***	Missouri	T.	T.	.15	.05	.10	.12												T.	.02	T.	.01		T.	T.				T.			0.35
Bottineau ‖ ‖	Mouse				T.										T.				T.	T.	.01				.01	.01						0.03
Bowbells ‖ ‖	Mouse																								.03							0.03
Bowman	Grand	T.	T.	T.	T.	T.								T.																		T.
Buford	Missouri				T.	.02																										0.02
Cando	Sheyenne													.01	T.					T.	T.											0.01
Carson	Heart			.20													T.				T.											0.20
Colgate	Sheyenne					.50									T.					.10	T.			T.	T.							0.60
Crosby	Mouse												.05						T.				T.									0.05
Devils Lake ***	Sheyenne				T.	T.								.01		T.		T.	T.	.01	.04			.01	.02							0.09
Dickinson	Heart			.03	.10	.03											T.				.05	T.			T.				T.			0.21
Donnybrook	Mouse			T.																				T.								T.
Dunseith	Mouse																															0.00
Eckman	Mouse													T.						T.		T.	.04	.03								0.07
Edgeley	James					.05	.05													.10												0.20
Energy	Missouri			.10		.20															.20			T.								0.50
Epping	Missouri																															0.00
Essenden ‖ ‖	James				T.														T.	T.	04	.05			.16							0.25
Forman	Sheyenne					.10																										0.10
Fullerton	James					.25	.30											T.		T.				.04	T.							0.59
Garrison	Missouri	T.	T.		.07	T.							T.				T.				.09			.08	T.							0.24
Goodall	Missouri																															0.00
Grafton ‖ ‖	Red														.04				T.		.02					.04						0.10
Grand Rapids	James					.40															T.			T.								0.40
Granville	Mouse			T.										T.											.05							0.05
Hannah	Pembina														T.					T.	T.				.10							0.10
Hansboro	Red													T.						T.					T.							T.
Hettinger	Grand																															
Hillsboro	Red					.30	.05								.05					T.				.07	T.							0.47
Howard	Missouri																T.		T.					.03	T.							0.03
Jamestown ‖ ‖	James			T.	*	.10															.20				.10							0.40
Lakota	Sheyenne				T.	.01									.02				T.	.04	.04			.02	.01							0.14
Lamoine	Missouri				.20	T.									T.					T.	.10			T.	T.							0.30
Langdon ‖ ‖	Pembina		T.												.70				T.	T.	.30	T.				T.						1.00
Larimore ‖ ‖	Red						.05								.01																	0.06
Lisbon ‖ ‖	Sheyenne																															0.00
McHenry	James																			T.				T.	.35							0.35
McKinney	Mouse				T.	T.																										T.
McLeod	Sheyenne			.30		.40																										0.70
Maddock	Sheyenne																								T.							T.
Mandan	Missouri																															
Manfred	Sheyenne				.05															.07	T.			.05	T.							0.17
Manning	Knife					.11																										0.11
Marmarth	Lit. Missouri			T.	T.											.02				.01				T.	T.				T.			0.03
Marstonmoor	James				.02	T.	T.								T.				T.	.02	.02	T.		T.	T.	T.						0.06
Mayville	Red						.15	.15						.02	.01									.05	.07							0.45
Melville	James																															
Milnor	Red					.86													T.													0.86
Minot ‖ ‖	Mouse				T.		T.													T.	T.				.35							0.35
Minto	Red																							.05		.03						0.08
Mott	Cannon Ball	.17	.05	.15	.07	.09	.03										.18		.01		.08				.03							0.86
Napoleon ‖ ‖	Missouri				.08	.05															.05											0.18
New England	Cannon Ball			T.													T.								T.							T.
New Rockford	James																								T.	T.	T.					T.
New Salem	Heart			.10	.05	.10													T.		.10					T.						0.35
Orange	Cannon Ball					* .20																										0.20
Oriska	Sheyenne					.20																		T.								0.20
Park River	Red	T.				T.								T.						T.		T.		T.	T.							T.
Pembina ‖ ‖	Red					.06			.04								.02		.02					.04								0.18
Plaza	Missouri																															0.00
Power	Sheyenne																			.10	.10			T.	T.							0.20
Powers Lake	Missouri												T.							T.	T.				T.							T.
Ranger	Lit. Missouri			.10		.10											T.		T.		T.		T.		T.	T.						0.20
Steele	Missouri	T.		T.	T.									T.											T.							T.
Towner	Mouse													T.							T.			T.								T.
Turtle Lake	Missouri			T.																T.	T.	T.										T.
University	Red					.03								T.	.05			.01		T.				.08	.01							0.18
Valley City	Red					.42	.42												T.						.53							1.37
Walhalla	Pembina																		.10	.05		T.										0.15
Washburn	Missouri																						.08									0.08
Westhope	Mouse																															0.00
Williston ***	Missouri	T.		.01	T.	T.							.07	T.			.01		T.		.02			.02	T.				T.			0.13
Willow City	Mouse													T.						T.				T.	T.							T.
Zap	Knife			.01	.02	.03															.03			.01	T.							0.10
Moorhead, Minn ***	Red					.46									T.				.01	T.	.02			.08	T.							0.57

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	33	17	29	30	29	26	32	32	34	43	43	35	33	34	40	43	43	36	32	32	44	45	44	38	23	36	48	48	31	48	42	36.2
	Minimum	- 5	- 5	1	20	18	19	1	6	3	0	7	5	26	28	25	22	32	25	12	17	23	29	28	22	5	2	24	14	11	11	21	14.4
Aplin	Maximum	25	——	25	25	——	——	11	30	30	36	37	——	——	39	38	35	44	34	27	28	42	48	48	38	——	37	——	47	34	——	45	[b]34.9
	Minimum	0	——	5	8	——	——	6	- 8	0	- 5	7	——	——	10	18	15	24	22	3	15	8	23	22	20	——	0	——	15	12	——	5	[b] 9.8
Ashley	Maximum	26	21	18	19	22	24	28	27	26	31	32	26	32	32	38	34	42	35	29	25	40	46	42	39	23	28	40	33	30	36	42	31.2
	Minimum	14	- 7	0	9	17	18	0	11	12	- 3	- 1	7	12	21	22	25	20	22	16	14	23	24	25	22	0	3	10	18	12	9	13	12.5
Beach	Maximum	22	23	25	21	24	25	18	36	46	40	41	38	29	34	38	33	40	33	24	26	32	47	46	36	25	38	44	36	38	39	36	33.3
	Minimum	3	2	5	5	12	6	-10	-10	3	17	19	18	1	18	5	23	26	19	3	12	10	16	26	18	5	7	15	17	20	10	18	10.9
Berthold Agency	Maximum	26	22	28	26	29	26	26	32	33	35	40	39	30	27	37	35	39	34	28	33	43	49	50	43	26	37	47	39	34	39	46	34.8
	Minimum	4	- 9	10	9	13	10	- 5	-13	- 3	- 7	- 6	1	15	21	8	13	22	23	12	18	11	12	26	23	1	2	11	20	9	12	9	8.8
Bismarck	Maximum	28	21	23	27	25	29	29	31	32	37	37	35	30	30	38	37	43	35	30	31	45	50	49	36	23	37	48	34	33	38	44	34.4
	Minimum	8	3	10	15	19	17	8	- 1	3	3	8	7	16	22	23	18	26	21	18	18	22	27	27	13	2	5	15	19	16	7	11	13.7
Bottineau §§	Maximum	20	20	25	30	29	31	37	37	41	43	47	45	34	28	41	46	42	29	30	35	49	52	54	32	31	36	47	31	36	38	43	36.5
	Minimum	16	- 8	- 2	8	15	16	12	6	6	10	14	16	28	21	13	15	21	20	16	16	16	23	14	31	- 3	0	8	7	8	6	10	12.2
Bowbells §§	Maximum	21	22	27	27	26	27	29	34	43	46	42	36	30	27	40	37	41	39	31	31	50	51	53	30	31	31	51	31	25	——	40	[a]35.0
	Minimum	11	-11	- 5	- 2	12	8	- 2	4	4	7	8	11	14	19	7	9	15	21	16	15	14	20	25	25	5	- 2	9	21	8	10	——	[a] 9.9
Carson	Maximum	24	18	24	24	22	20	28	26	30	35	34	42	36	28	36	36	48	32	26	26	46	48	44	42	22	35	48	36	35	38	44	33.3
	Minimum	2	- 2	8	10	14	16	0	-10	- 6	- 2	2	8	14	20	20	16	26	22	8	15	12	26	22	20	2	- 2	8	18	20	0	3	10.0
Crosby	Maximum	23	20	23	24	28	28	30	28	30	31	32	29	29	29	32	35	40	31	35	43	49	50	42	24	34	45	44	32	36	41	42	33.5
	Minimum	13	- 5	12	13	12	10	- 1	3	4	3	9	11	23	19	3	12	9	8	20	15	24	32	21	4	10	10	12	11	9	9	11	11.2
Devils Lake	Maximum	24	11	21	26	24	25	28	39	41	47	46	38	32	34	40	40	41	29	27	29	46	50	51	35	17	35	46	27	27	35	40	33.9
	Minimum	- 1	- 6	2	16	17	14	7	13	13	17	21	20	22	24	21	22	26	16	16	17	18	23	30	4	0	6	18	8	5	5	11	13.7
Dickinson	Maximum	23	18	23	23	22	26	26	27	34	34	38	41	32	32	38	34	42	34	28	26	44	45	48	40	23	37	45	38	36	39	41	33.5
	Minimum	2	1	10	9	13	10	6	-11	- 3	- 2	1	7	16	19	11	18	25	7	7	17	13	23	33	22	3	- 1	10	10	10	8	11	9.5
Donnybrook	Maximum	22	19	23	26	26	28	32	31	34	38	37	37	23	28	37	38	43	32	30	36	46	50	52	39	21	35	46	44	30	39	42	34.6
	Minimum	11	-15	8	2	12	11	- 1	3	1	3	13	11	20	22	10	10	23	23	13	17	15	24	30	18	- 3	3	17	12	6	3	6	10.6
Dunseith	Maximum	28	18	25	31	28	29	34	34	38	42	43	43	39	30	40	39	39	——	——	35	47	49	52	37	18	34	45	28	——	40	[c]35.5
	Minimum	- 2	- 9	6	14	18	16	11	7	5	12	12	14	23	20	16	19	23	——	——	1	19	24	26	10	- 2	- 4	14	4	3	——	10	[c]11.1
Edgeley	Maximum	30	26	20	23	23	25	28	31	29	36	36	34	35	34	39	41	43	36	31	27	46	48	47	43	23	35	46	37	31	35	42	34.2
	Minimum	17	- 4	2	2	13	19	6	1	6	10	15	14	19	27	23	22	24	28	17	12	23	26	26	23	2	4	15	16	8	7	10	14.0
Fessenden §§	Maximum	26	19	28	30	28	30	36	39	41	46	47	45	33	35	41	43	44	34	28	36	49	51	51	35	22	36	47	31	31	37	42	36.8
	Minimum	3	- 2	- 1	8	11	7	6	7	9	9	13	13	12	22	18	15	23	25	16	16	19	21	21	22	- 1	2	14	9	6	3	10	11.5
Forman	Maximum	38	36	30	34	36	32	——	35	36	26	26	36	40	40	41	45	41	43	39	38	40	48	53	49	46	33	38	44	40	42	44	[a]39.0
	Minimum	11	- 8	4	18	20	18	-10	——	-4	- 8	- 4	10	26	29	24	12	15	28	19	15	24	30	23	25	5	4	10	18	13	12	16	[a]13.2
Fullerton	Maximum	28	20	21	24	23	23	25	26	19	26	30	32	35	33	36	39	40	34	29	26	42	44	44	41	24	31	44	30	28	34	39	31.3
	Minimum	9	- 6	1	15	19	12	4	- 2	- 5	- 3	15	18	22	27	24	22	24	25	18	16	24	29	28	24	5	5	10	18	12	11	14	14.0
Garrison	Maximum	25	19	25	25	26	27	29	30	33	38	38	36	32	28	40	35	37	37	30	33	41	50	52	44	22	37	46	34	36	38	45	34.5
	Minimum	5	- 8	6	6	16	11	2	- 5	0	- 1	6	8	13	21	15	16	26	20	16	16	11	22	18	17	- 3	2	8	16	11	2	9	9.7
Grafton §§	Maximum	15	13	25	30	28	30	30	31	36	43	44	32	32	37	40	42	38	29	——	31	42	50	47	33	29	36	46	26	30	36	37	[a]33.9
	Minimum	15	- 9	- 8	5	13	12	4	- 3	6	9	16	20	22	26	25	22	27	21	15	18	20	26	28	29	3	7	21	8	6	10	17	13.9
Granville	Maximum	22	24	28	32	28	32	35	37	44	35	47	34	30	30	43	41	45	33	32	28	37	39	42	53	30	27	30	30	22	45	51	35.0
	Minimum	- 7	0	10	15	19	18	5	7	6	10	12	22	18	14	15	18	25	22	23	8	10	12	22	30	0	18	15	11	10	5	17	12.9
Hannah	Maximum	20	18	20	25	30	24	31	35	39	41	45	40	33	34	35	41	34	28	24	30	41	46	54	35	27	35	28	27	27	32	38	32.8
	Minimum	12	-19	- 6	7	10	5	- 6	3	10	13	18	20	22	19	21	18	22	18	12	10	15	24	26	12	- 8	2	10	0	- 2	- 2	14	9.7
Hansboro	Maximum	29	22	29	36	32	33	40	50	50	63	52	48	35	33	50	49	45	33	28	33	55	57	56	41	23	40	50	33	34	41	46	40.8
	Minimum	2	-12	4	10	14	10	5	6	9	11	16	12	20	22	11	19	24	12	14	15	16	22	25	9	- 4	2	17	0	0	4	7	10.4
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard	Maximum	18	20	22	22	23	23	21	26	23	31	32	24	24	24	31	31	34	31	26	30	36	44	32	37	20	30	42	32	34	34	38	29.2
	Minimum	- 3	-10	9	5	0	9	- 6	- 2	- 6	2	0	5	19	11	0	20	15	13	- 4	14	7	16	31	18	- 2	0	13	20	10	19	11	7.5
Jamestown §§	Maximum	29	17	40	27	27	25	30	39	39	43	42	36	35	32	40	42	44	35	32	30	48	49	47	41	29	47	48	32	28	28	41	36.1
	Minimum	17	- 4	- 5	8	16	17	8	4	3	9	13	16	20	21	22	20	20	28	17	17	17	25	25	29	2	2	6	15	12	8	12	13.5
Lakota	Maximum	22	10	14	24	26	26	26	32	31	46	——	——	——	33	36	40	36	32	26	36	43	46	45	39	16	33	36	43	28	34	37	[c]32.0
	Minimum	8	-18	- 5	12	16	16	- 2	- 6	0	5	——	——	——	15	21	17	20	18	10	25	17	23	30	10	2	12	9	10	14	9	16	[c]10.9
Lamoine	Maximum	26	17	23	25	24	24	20	32	34	35	39	38	32	30	38	38	43	32	22	23	45	48	47	38	18	26	47	34	28	34	38	32.2
	Minimum	14	- 6	3	13	13	13	3	0	1	5	9	9	15	20	18	15	19	20	14	14	15	23	25	14	- 3	14	12	10	6	3	7	10.9
Langdon	Maximum	25	18	21	29	25	24	28	38	37	44	43	35	31	34	38	42	36	25	24	30	43	47	49	29	29	34	42	27	26	33	34	32.9
	Minimum	10	-20	-15	0	13	8	4	0	9	9	13	19	20	19	22	20	21	17	13	14	14	17	22	29	15	10	15	5	5	7	13	11.2
Larimore §§	Maximum	28	13	24	30	26	24	25	36	31	42	45	31	34	35	38	41	40	27	25	38	43	46	44	32	30	35	46	25	30	34	34	33.3
	Minimum	13	-12	- 5	7	18	14	2	4	7	15	20	18	24	26	25	21	27	22	15	18	19	21	30	30	2	7	21	9	7	9	17	14.5
Lisbon §§	Maximum	28	10	20	21	18	16	23	26	24	28	31	32	29	29	26	28	31	35	35	30	37	38	34	40	46	45	48	55	41	45	43	32.0
	Minimum	4	-10	- 8	- 4	- 6	2	8	10	8	10	8	8	3	8	4	10	3	5	6	6	8	8	13	15	18	12	5	5	12	15	20	6.6
McHenry	Maximum	28	14	24	28	26	28	28	35	37	44	43	35	32	37	39	40	41	34	27	35	46	48	47	42	18	35	46	34	28	34	37	34.3
	Minimum	11	6	3	15	18	15	6	5	8	17	16	16	20	29	21	19	24	20	16	16	20	22	27	12	1	3	15	10	7	6	8	13.9
McKinney	Maximum	25	24	31	28	32	34	35	39	40	44	46	42	32	32	42	40	45	35	26	40	50	53	54	53	35	40	50	43	45	44	40	39.3
	Minimum	- 5	-22	-16	- 2	10	10	14	- 8	- 8	1	3	5	22	5	5	12	22	10	15	15	18	16	32	33	1	6	8	10	3	6	4	7.3
Manfred	Maximum	30	19	28	29	27	30	34	36	38	43	43	43	34	39	43	43	33	28	28	44	50	52	45	18	36	48	40	28	36	45	36.5
	Minimum	13	0	6	11	20	19	5	6	8	10	12	14	20	25	20	17	22	23	17	17	20	21	27	16	- 2	3	15	10	6	2	10	13.3
Marmarth	Maximum	23	22	22	22	24	28	29	34	35	41	38	39	31	37	34	40	32	24	28	43	44	49	36	22	35	48	42	35	38	42	42	34.2
	Minimum	5	15	11	11	9	- 4	- 5	- 4	0	9	15	14	13	8	24	23	19	6	16	11	25	24	22	11	5	13	19	19	11	11	15	12.0
Minot §§	Maximum	25	30	33	36	34	39	40	36	45	41	44	42	35	30	44	39	46	35	37	37	53	54	63	41	34	40	51	34	38	40	44	40.0
	Minimum	10	-15	-13	7	8	13	1	- 3	- 2	1	1	6	9	22	10	14	18	21	14	14	10	15	20	28	- 4	- 3	5	7	5	- 3	0	7.0
Mott	Maximum	29	26	26	28	25	26	27	27	29	33	37	37	40	38	38	37	39	34	32	31	43	45	53	43	33	27	34	41	38	39	41	34.7
	Minimum	- 2	9	11	11	9	6	4	-12	- 8	- 8	- 6	- 3	8	16	12	13	17	22	15	8	9	18	23	25	3	- 1	8	20	14	5	7	8.2
Napoleon §§	Maximum	27	16	18	24	23	28	32	32	35	41	40	14	35	33	40	38	45	35	31	25	45	50	46	39	23	35	47	35	32	38	48	33.9
	Minimum	14	- 5	- 3	9	14	15	- 1	- 5	- 4	- 3	- 1	5	4	5	17	17	18	20	15	13	14	20	20	23	- 3	- 2	6	14	5	0	5	7.9
New England	Maximum	16	13	19	20	19	19	20	18	25	30	32	35	28	31	30	31	35	27	26	25	30	41	44	46	20	30	28	46	32	41	42	29.0
	Minimum	- 1	1	9	6	12	11	1	-13	- 7	-10	- 6	- 1	8	9	7	14	24	19	12	5	7	15	15	10	5	10	9	10	0	9	11	6.5
New Rockford	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	42	40	50	48	30	30	50	66	70	53	60	64	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	29	26	12	20	0	10	22	26	25	16	29	30	....
New Salem	Maximum	24	20	26	21	23	24	18	25	30	36	36	38	28	28	36	35	42	32	26	25	34	43	48	36	22	36	47	40	33	38	46	32.1
	Minimum	6	- 3	6	9	12	12	7	- 1	- 1	- 1	10	6	14	18	18	13	22	18	17	16	18	18	25	6	- 4	2	14	18	13	4	10	10.4
Orange	Maximum	25	13	21	20	21	24	26	20	29	32	28	38	32	31	35	33	38	29	25	25	41	47	55	35	22	30	47	35	32	33	37	30.9
	Minimum	1	6	9	11	10	8	- 8	-15	- 1	-10	- 4	1	11	19	17	10	22	20	14	20	12	26	25	21	5	4	11	22	20	8	9	9.7
Oriska	Maximum	28	29	26	28	26	23	26	33	32	38	40	39	32	34	38	42	40	38	28	28	44	45	45	40	25	34	46	45	34	40	45	34.9
	Minimum	12	- 9	7	16	18	10	4	- 1	1	12	16	15	25	23	20	21	25	26	17	17	24	23	30	25	4	7	25	14	10	10	11	14.8
Park River	Maximum	31	13	19	28	27	27	28	36	36	41	42	37	31	35	34	40	38	34	25	27	43	50	50	47	17	36	45	26	27	35	35	34.7
	Minimum	13	-11	- 6	9	17	13	10	7	11	18	21	22	25	27	27	22	29	19	16	25	20	28	34	15	6	10	20	9	8	12	23	16.1
Pembina §§	Maximum	22	26	28	32	26	28	30	40	32	28	30	26	30	32	40	34	36	30	28	31	32	48	40	24	17	32	22	30	32	34	34	30.8
	Minimum	- 2	- 8	4	- 2	12	5	8	2	15	8	5	12	5	10	14	18	12	18	8	5	10	12	24	22	0	10	18	5	10	8	18	9.2
Power	Maximum	34	25	29	25	25	22	30	30	29	30	30	34	34	36	40	43	45	35	31	30	44	44	43	35	24	35	37	32	——	——	——	[c]33.2
	Minimum	18	- 9	11	2	20	10	5	- 3	- 3	2	8	12	26	30	28	15	26	30	17	18	19	30	29	24	6	5	11	4	——	——	——	[c]14.0
Towner	Maximum	28	21	30	33	28	31	37	38	44	47	47	48	43	35	42	41	44	38	29	36	51	53	50	52	23	37	48	42	34	46	44	39.4
	Minimum	13	- 7	10	14	20	17	7	6	7	11	12	14	21	26	17	18	23	23	18	18	15	20	23	18	1	- 2	14	9	5	4	8	13.0
Turtle Lake	Maximum	29	20	28	27	26	30	30	36	34	37	39	36	36	28	42	43	43	46	34	31	46	52	51	40	36	34	49	42	43	34	44	37.0
	Minimum	10	- 4	6	7	6	13	2	0	4	3	10	10	14	14	18	20	19	23	17	17	15	31	29	17	12	14	6	20	22	12	10	12.8
University	Maximum	27	14	26	31	26	31	30	36	37	41	46	32	31	34	40	41	39	31	25	28	42	47	45	34	16	36	46	25	26	35	34	[c]33.3
	Minimum	1	- 8	3	18	21	17	6	8	12	14	20	20	28	27	27	22	28	21	18	19	22	27	29	10	4	10	23	11	8	13	19	[c]16.1
Wahpeton §§	Maximum	29	19	29	32	32	25	25	28	26	26	32	32	30	35	36	36	37	33	29	30	37	42	43	40	31	40	48	30	28	33	35	32.5
	Minimum	15	- 4	0	19	19	19	3	1	3	- 2	3	10	27	12	25	17	22	24	17	18	10	28	27	31	- 5	19	28	16	18	20	19	15.0
Washburn	Maximum	——	23	25	——	29	——	34	31	33	38	38	36	36	——	40	38	44	36	32	32	46	51	51	44	23	——	38	48	35	38	45	37.1
	Minimum	0	- 2	10	——	11	——	22	10	4	3	10	10	12	——	19	19	25	25	17	18	18	26	28	18	4	——	7	17	13	12	11	13.6
Westhope	Maximum	30	21	25	29	29	30	34	35	42	45	45	42	38	32	42	44	44	34	32	——	——	——	——	——	——	——	——	——	——	33	40	44	[b]35.9
	Minimum	10	-18	5	8	17	13	2	1	3	12	13	23	27	24	16	20	26	22	17	——	——	——	——	——	——	——	——	——	——	11	16	9	[b]12.6
Williston	Maximum	20	25	24	25	27	25	24	34	27	36	38	30	27	26	37	33	40	31	28	33	41	46	50	34	21	36	45	33	34	37	42	32.5
	Minimum	1	- 3	12	12	15	10	- 3	- 4	- 4	- 4	- 1	6	21	15	8	26	23	14	4	21	14	23	33	13	3	8	18	19	15	10	11	10.8
Willow City	Maximum	24	20	25	27	25	33	31	32	42	43	45	45	42	35	34	41	38	25	27	35	47	50	48	28	19	34	40	43	28	37	32	34.7
	Minimum	12	-11	- 6	14	14	4	4	5	8	12	14	15	24	23	16	17	23	18	14	18	14	18	28	16	- 2	0	13	6	4	2	8	11.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

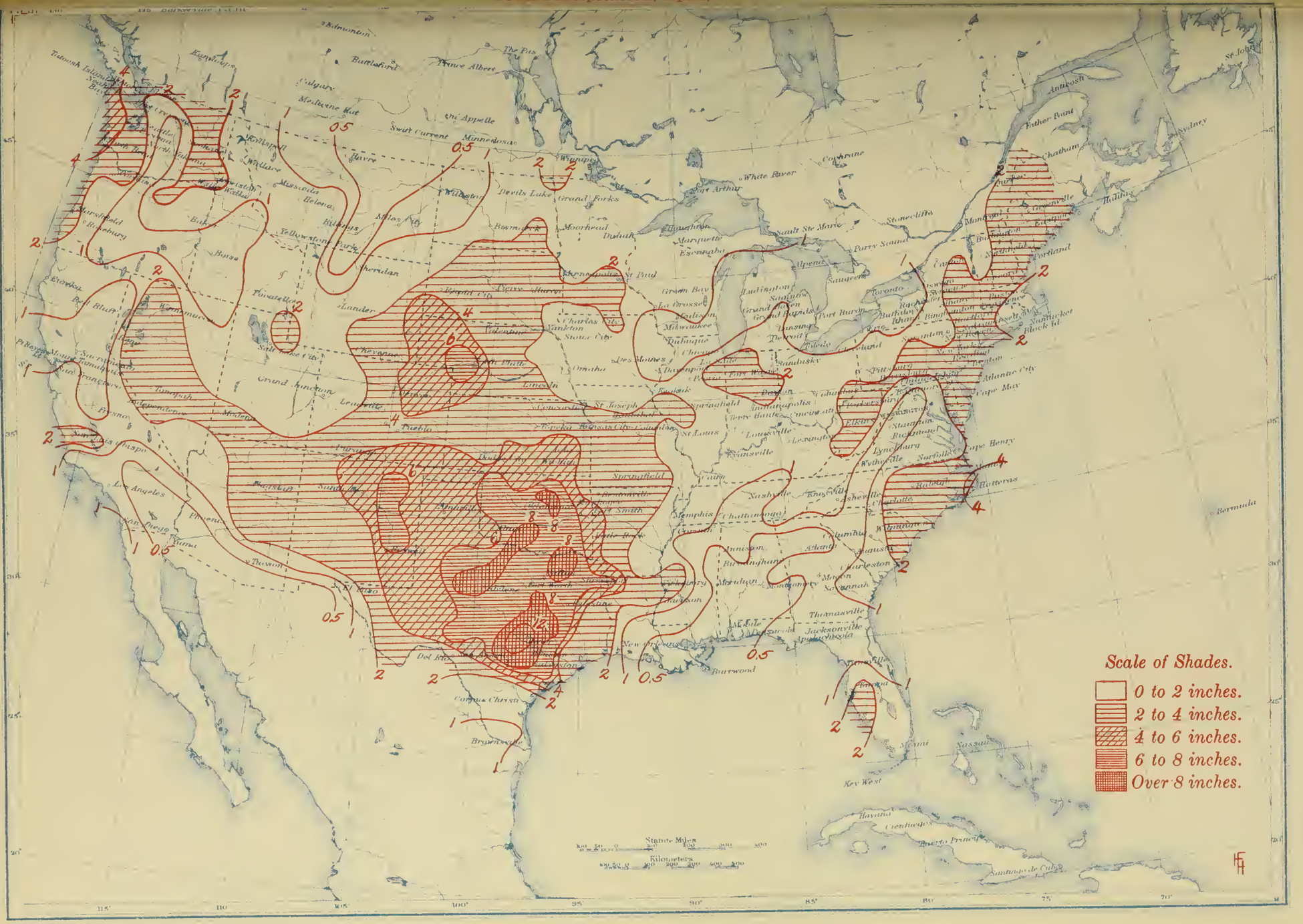
NORTH DAKOTA SECTION

APRIL, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MAY 27, 1915.

Total Precipitation, April, 1913.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

Vol. XXV. Bismarck, N. D., April, 1915. No. 4.

GENERAL SUMMARY.

Generally favorable weather for the germination and growth of plant life prevailed throughout the greater portion of the State during the month. The temperature averaged nearly ten degrees above the normal, the mean being the highest ever recorded in the State during April since the climatological service was established in 1892. All stations showed plus departures. The temperature at the opening of the month was below the normal, but increased rapidly and remained above the normal during the second and third decades. There was more than the usual cloudiness, which was very beneficial to small grains. While the precipitation was below the normal, the ground was in fairly good condition at the close of the month, except in the extreme west portion, where more rain is needed. The wind movement was nearly the normal, and no severe storms were reported.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 29.95 inches. The highest was 30.52 inches at Bismarck, Burleigh County, and Devils Lake, Ramsey County, on the 1st; the lowest was 29.41 inches at Williston on the 21st.

TEMPERATURE.

The mean temperature for the State was 50.3°, or 8.9° above the normal, and 9.4° higher than the mean for April, 1914. The highest mean reported was 55.4° at Forman, Sargent County, New Rockford, Eddy County, and Power, Richland County; the lowest was 44.9° at Hannah, Cavalier County. The highest temperature reported was 99° at Forman, Sargent County, on the 15th; the lowest was 5° at Minot, Ward County, on the 1st. Usually the highest temperature was recorded on the 21st, and the lowest on the 1st. The greatest monthly range of temperature was 93° at Minot, Ward County; the least was 59° at Beach, Golden Valley County. The greatest daily range was 68° at Minot, Ward County, on the 13th. The distribution of temperature was quite uniform, all stations in the State showing means above the normal. The first decade was the coldest, and the last the warmest. The mean was the highest of record for April ever recorded in the State.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 63.8 per cent, the average at 7 a. m. being 79.2 per cent, and at 7 p. m. 48.4 per cent.

PRECIPITATION.

The average precipitation for the State was 1.08 inches, or 0.39 inch below the normal, and 0.58 inch lower than the average for April, 1914. The greatest monthly amount reported was 2.41 inches at New Rockford, Eddy County; the least was 0.29 inch at Steele, Kidder County. The greatest amount recorded in any twenty-four consecutive hours was was 2.25 inches at New Rockford, Eddy County, on the 23d. Practically all of the precipitation occurred in the form of rain, the only snowfall of importance being 0.2 inch at Lakota, Nelson County. The average number of days with 0.01 inch or more of precipitation was five. There were two stormy periods, from the 4th to 10th, inclusive, and from the 20th to the 27th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.5 miles. The greatest wind movement was 8,508 miles at Devils Lake, an average of 11.8 miles per hour; the least was 6,553 miles at Moorhead, an average of 9.1 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 41 miles per hour from the south at Bismarck on the 21st, considering only the records of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was slightly more than the usual sunshine; the average number of clear days was 15, partly cloudy 8, and cloudy 7.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cldy days.	
1892...	37.6	−3.8	75	− 2	2.65	+1.18	7	10	6	14	nc.
1893...	34.3	−7.1	77	− 8	1.73	+1.26	6	7	9	14	nw.
1894...	42.8	+1.4	92	12	3.06	+1.49	9	7	9	12	se.
1895...	49.6	+8.2	87	10	2.23	+0.76	5	13	8	9	nw.
1896...	40.1	−1.3	92	2	4.37	+2.90	9	9	8	13	nw.
1897...	40.8	−0.6	93	7	1.01	−0.46	5	12	8	10	nw.
1898...	41.9	+0.5	87	− 4	1.38	−0.09	5	14	9	7	nw.
1899...	38.0	−3.4	86	−22	1.36	−0.11	6	12	10	8	nw.
1900...	49.3	+7.9	93	11	0.75	−0.72	3	20	6	4	se.
1901...	44.5	+3.1	92	10	0.98	−0.49	4	12	9	9	se.
1902...	40.2	−1.2	87	− 2	1.06	−0.41	3	12	8	10	nw.
1903...	42.5	+1.1	83	8	1.23	−0.24	5	16	6	8	nw.
1904...	37.4	−4.0	91	2	1.70	+0.23	5	13	5	12	se.
1905...	40.2	−1.2	83	3	0.63	−0.84	3	15	8	7	nw.
1906...	46.7	+5.3	88	8	1.50	+0.03	5	14	7	9	nw.
1907...	31.9	−9.5	80	− 6	0.57	−0.90	4	10	9	11	nw.
1908...	43.9	+2.5	91	−19	1.47	0.00	5	16	6	8	nw.
1909...	34.2	−7.2	80	3	0.81	−0.66	6	10	9	11	nw.
1910...	48.0	+6.6	96	4	1.30	−0.17	4	16	8	6	nw.
1911...	41.5	+0.1	90	− 5	1.30	−0.17	5	15	6	9	nw.
1912...	44.4	+3.0	88	2	2.34	+0.87	7	14	8	8	nw.
1913...	46.8	+5.4	94	11	0.71	−0.76	4	16	6	8	se.
1914...	40.9	−0.5	84	2	1.66	+0.19	6	9	10	11	nw.
1915...	50.3	+9.9	99	5	1.08	−0.39	5	15	8	7	nw.

Climatological Data for April, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With 01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	50.2	+8.1	84	17	19	2	40	2.13	+0.20	0.66	.....	5	10	6	14	n.	E. T. Carley
Aplin	Oliver	1,900	8	51.7[a]	.....	88[a]	21	12[a]	1	46[a]	0.23	.....	0.20	0	2	14	7	8	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	50.0	+8.3	84	14	15	2	41	1.72	+0.64	0.91	0	5	19	6	5	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	52.8	.....	85	†13	26	11	40	0.58	.....	0.40	0	3	25	0	5	se.	D. J. Steiner
Berthold Agency	McLean	2,082	21	52.0	+8.5	89	21	11	1	52	0.48	−0.60	0.22	0	5	13	12	5	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	51.5	+8.9	88	14	14	1	45	1.04	−0.84	0.77	0	5	13	9	8	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	48.2	+9.1	87	21	13	1	58	1.64	+0.81	0.98	0	7	8	9	13	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	48.4	.....	87	21	9	1	54	0.56	.....	0.20	0	5	18	2	10	.....	G. H. Phelps
Bowman	Bowman	.....	1	50.4	.....	83	†14	15	1	44	0.80	.....	0.45	0	2	17	0	13	.....	L. S. Diehl
Buford	Williams	1,944	36	52.2	+9.5	81	†14	17	1	47	0.35	−0.75	0.30	0	2	9	18	3	se.	C. H. McCune
Cando	Towner	1,488	14	48.6[f]	+8.5	94[f]	22	12[f]	2	52[f]	0.63	−0.28	0.29	0	4	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	3	50.9	.....	86	†14	6	1	48	1.25	.....	0.42	0	4	20	5	5	s.	D. L. Basquin
Colgate	Steele	1,177	1	50.8	.....	83	†17	17	2	44	1.57	.....	0.56	0	7	21	5	4	ne.	H. P. Rice
Crosby	Divide	1,954	8	49.5[b]	.....	82[b]	13	11[b]	1	46[b]	0.51	.....	0.25	0	3	20	5	5	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	48.3	+10.1	83	21	14	1	43	1.10	−0.93	0.65	T.	8	7	12	11	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	50.8	+8.1	85	14	11	1	50	0.61	−0.61	0.52	0	3	7	19	4	se.	L. R. Waldron
Donnybrook	Ward	1,760	16	49.4[a]	+10.1	84[a]	21	10[a]	1	42[a]	0.45	−0.40	0.35	0	2	18	4	8	s.	Geo. Mitchell
Dunseith	Rolette	1,682	19	48.2[b]	+7.8	85[a]	21	12[b]	1	45[b]	0.95	+0.22	0.36	0	4	18	3	9	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	48.8[a]	.....	90[a]	21	9[a]	1	55[a]	0.72	.....	0.19	0	8	16	7	7	n.	J. Nussbaum
Edgeley	LaMoure	1,468	14	51.0	+9.0	83	†14	14	† 1	44	1.49	−0.30	0.70	0	4	10	13	7	nw.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.20	0	2	12	10	8	s.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.28	0	3	21	6	3	e.	M. E. Uggen
Fessenden	Wells	1,610	3	47.4	.....	88	14	10	1	55	1.24	.....	0.75	0	5	20	2	8	nw.	G. T. Seymour
Forman	Sargent	1,249	23	55.1[b]	+11.5	99[c]	15	19	† 1	54[c]	1.75	−0.46	0.48	0	8	15	7	8	nw.	A. Maltby
Fullerton	Dickey	1,439	17	50.6	+8.3	82	17	18	2	47	1.07	−0.84	0.46	0	4	14	10	6	s.	F. O. Alin
Garrison	McLean	1,901	20	50.1[b]	+7.7	87[b]	20	13[b]	1	48[b]	0.91	−0.15	0.38	0	5	11	13	5	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	51.3	.....	83	14	18	1	47	1.13	.....	0.78	0	2	17	4	9	nw.	C. H. Layman
Grafton	Walsh	827	23	48.4	+8.4	83	†17	15	2	47	1.49	−0.02	0.85	0	10	15	8	7	n.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	51.8	.....	82	†14	12	2	44	1.30	.....	0.55	T.	5	14	8	8	nw.	G. H. Leick
Granville	McHenry	1,504	8	49.4	.....	89	20	12	1	50	1.27	.....	0.46	0	5	13	10	7	nw.	W. A. Christianson
Hannah	Cavalier	1,568	10	44.9	.....	84	†17	10	1	45	1.11	.....	0.60	T.	6	12	6	12	nw.	J. Moffatt
Hansboro	Towner	1,597	7	48.4[d]	.....	91[e]	17	11[e]	† 1	46[e]	1.65	.....	1.00	T.	5	.....	.....	.....	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogaard
Hillsboro	Traill	901	9	51.6	.....	83	†17	18	2	40	1.66	.....	0.68	0	8	14	12	4	nw.	F. E. Mayall
Howard	Williams	2,275	6	49.4	.....	86	14	15	1	46	0.38	.....	0.27	.....	3	8	16	6	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	49.8	+7.3	87	†14	12	1	64	1.57	−0.22	0.80	.....	5	9	6	15	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	48.5[a]	+9.9	81[b]	21	9[a]	1	40[a]	0.98	−0.66	0.40	0.2	6	7	16	7	se.	C. R. Pettes
Lamoine	Kidder	1,936	7	49.6	.....	88	14	12	1	55	1.35	.....	0.85	0	4	14	8	8	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	46.4	.....	82	21	17	1	50	1.46	.....	0.56	0	7	21	1	8	sw.	R. T. Burke
Larimore	Grand Forks	1,134	20	49.0	+8.9	82	17	20	† 1	42	0.41	−1.11	0.37	T.	4	11	8	11	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	51.2	+9.9	86	†14	14	12	50	1.73	−0.36	0.67	0	6	13	6	11	nw.	W. S. Adams
McHenry	Foster	1,509	5	48.8	.....	84	†14	15	† 1	44	2.06	.....	1.50	0	3	19	8	3	s.	P. E. Truden
McKinney	Renville	1,640	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. P. Swenson
McLeod	Ransom	1,075	3	.....	.....	87	14	.....	.....	.....	1.95	.....	1.50	.....	3	10	17	3	nw.	E. W. Griggs
Maddock	Benson	.....	.....	49.9[a]	.....	88	14	10[a]	1	49[a]	0.98	.....	0.36	0	7	14	0	16	nw.	W. M. Jackson
Mandan	Morton	1,644	1	51.9[a]	.....	88[a]	14	14	1	46[a]	1.11	.....	0.67	0	5	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	12	50.4	+9.6	89	14	13	1	45	1.62	+0.38	0.50	0	7	13	7	10	s.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.49	0	2	.....	.....	.....	.....	No. Great Plainfield Sta.
Marmarth	Billings	.....	6	51.2[a]	.....	82	13	19[a]	1	39[a]	0.71	.....	0.62	0	5	12	10	8	nw.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	49.0	.....	87	14	8[a]	1	50	0.89	.....	0.45	T.	5	12	12	6	nw.	H. H. McCumber
Mayville	Traill	975	19	52.0	+9.3	84	†17	16	2	44	1.12	−0.55	0.48	0	6	20	3	7	sw.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	1.29	.....	0.52	0	4	17	8	5	n.	Hj. Edman
Minot	Ward	1,557	19	48.6	+7.1	98	21	5	1	68	0.66	−0.60	0.21	0	6	10	15	5	se.	W. I. Faris
Minto	Walsh	820	22	50.0	+9.4	83	†21	10	1	48	1.73	+0.08	0.80	T.	6	16	3	11	n.	S. S. Marsh
Mott	Hettinger	2,424	8	52.4	.....	84	†13	13	1	42	0.93	.....	0.76	0	4	9	9	12	nw.	O. H. Opland
Napoleon	Logan	1,955	23	49.1	+7.7	87	14	8	1	58	1.17	−0.57	0.56	0	5	10	8	12	s.	C. J. Hoof
New England	Hettinger	2,400	21	52.2	+9.7	87	14	16	1	47	0.75	−0.23	0.37	0	3	12	13	5	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	55.4	.....	85	14	18	6	57	2.41	.....	2.25	0	5	18	4	8	se.	H. H. Maxwell
New Salem	Morton	2,163	10	51.2	+8.6	88	21	11	2	46	0.95	−0.23	0.38	0	4	21	3	6	se.	J. Christiansen
Orange	Adams	2,586	6	50.4	.....	85	21	13	1	42	1.27	.....	0.59	0	5	16	9	5	se.	J. E. Goforth
Oriska	Barnes	1,270	10	52.0	+8.8	82	†17	12	1	40	2.00	+0.31	0.53	0	7	15	11	4	s.	J. J. Taylor
Park River	Walsh	998	11	49.8	+8.6	82	17	20	2	46	1.56	+0.29	0.68	0	7	14	9	7	nw.	G. M. Hargrave
Pembina	Pembina	789	41	49.1	+11.6	79	21	18	2	41	2.23	+0.58	0.82	0	5	13	7	10	ne.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.57	.....	0.30	0	3	17	9	4	se.	J. A. Johnson
Power	Richland	1,020	23	55.1[a]	+13.2	86[a]	18	25[a]	† 2	40[a]	0.85	−1.03	0.45	0	3	18	3	9	nw.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.40	0	2	18	8	4	nw.	C. Frank
Ranger	Billings	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.62	0	7	11	11	8	nw.	C. M. Hubbard
Steele	Kidder	1,857	18	51.4[b]	+7.2	82[b]	†14	26[b]	1	37[b]	0.29	−0.77	0.29	0	1	.....	.....	.....	.....	H. S. Wood
Towner	McHenry	1,482	13	50.6	+9.8	88	21	12	1	48	0.80	−0.45	0.33	0	4	9	13	8	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	52.2[b]	.....	86[b]	21	13[b]	1	52[b]	0.98	.....	0.68	0	2	.....	.....	.....	nw.	E. J. Jones
University	Grand Forks	830	23	49.2	+7.3	82	17	18	2	45	0.99	−1.10	0.62	0	8	16	8	6	se.	U. S. Weather Bureau
Wahpeton	Richland	962	21	51.6	+7.2	83	17	19	2	38	1.14	−1.20	0.48	0	7	16	8	6	nw.	F. E. Smith
Walhalla	Pembina	966	8	52.2	.....	84	†17	11	2	42	1.91	.....	1.06	0	4	19	8	3	n.	I. DeL. Lee
Washburn	McLean	1,734	17	52.7[a]	+8.2	86[a]	†14	15[a]	1	44[b]	0.81	−0.30	0.32	0	4	24	0	6	e.	A. Wacker
Westhope	Bottineau	1,508	9	51.2	.....	90	21	12	† 1	54	0.53	.....	0.25	0	4	13	12	5	nw.	C. M. Condit
Williston	Williams	1,875	36	51.6	+11.1	84	13	18	1	40	0.68	−0.55	0.33	0	4	10	12	8	se.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	45.0	+4.8	82	14	10	1	47	0.68	−0.25	0.30	T.	4	7	18	5	nw.	M. A. Ostby
Zap	Mercer	1,800	2	51.8	.....	87	21	12	1	47	0.38	.....	0.13	0	6	20	6	4	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	51.4	+10.0	83	21	22	12	35	1.15	−1.18	0.61	0	11	16	8	6	nw.	U. S. Weather Bureau
Averages				50.3	+8.9	99	15	5	1	68	1.08	−0.39	2.25	T.	5	15	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for April, 1915.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Armenia ‖ ‖	Red								.50	T.		T.	.40									T.		.22	.35	T.	T.	.66				2.13
Aplin	Knife							T.			T.							T.				T.	T.	.20	.14							0.34
Ashley	Missouri						.02	.10	T.															.91	.03		.66					1.72
Beach	Lit. Missouri				T.						.03						.15							.40								0.58
Berthold Agency	Missouri							.05							.05							T.	.13	.03	.22							0.48
Bismarck ***	Missouri			T.	T.			.01			T.					T.					T.	T.	.11	.69	.08		.15					1.04
Bottineau ‖ ‖	Mouse				.02	T.			.01															.98	.30	.24	.08	.01	T.				1.64
Bowbells ‖ ‖	Mouse				.05				.20		.05														.03	.12	.11						0.56
Bowman	Grand																								.35	.45							0.80
Buford	Missouri			.05																						.30							0.35
Cando	Sheyenne								.05		T.													.10	.29	.18	.01						0.63
Carson	Heart																.08							.35	.42	.40							1.25
Colgate	Sheyenne							.04				.05				.06								.43	.56		.40	.03					1.57
Crosby	Mouse			.03				.23														T.	T.		.25	T.							0.51
Devils Lake ***	Sheyenne			T.		T.		.09				.01									.03	.04	.02	.65	.10		.16						1.10
Dickinson	Heart							T.	T.		T.				T.	T.					T.	.01	T.	.08	.52								0.61
Dunnybrook	Mouse							.10																	.35	T.							0.45
Dunseith	Mouse				T.						T.													.36	.35	.14	.10						0.95
Eckman	Mouse			T.	.02	T.		.02	T.		.02										.16	.19	.09	.16	.06	T.						0.72
Edgeley	James							.02			.02													.70			.65						1.49
Energy	Missouri			T.				T.			T.							T.				T.	.20	.17	T.								0.37
Epping	Missouri			.08				.18													T.				.28								0.54
Essenden ‖ ‖	James				T.				.03			.06				T.			T.		T.		T.	T.	.75	.08		.32				1.24
Forman	Sheyenne							.45	.02	.22	.20													.09	.48	.05		.24					1.75
Fullerton	James							T.	T.	.10	.09														.46			.42					1.07
Garrison	Missouri			.05				T.								.09					T.	.25	.38	.14								0.91
Goodall	Missouri							.35																	.78								1.13
Grafton ‖ ‖	Red				.04				T.	.02		.01						.01	.02					.06	.19	.85	.02		.27				1.49
Grand Rapids	James							T.			.05													.05	.55	.15		.50					1.30
Granville	Mouse			T.				T.								.01					.46	.39	.12	.29								1.27
Hannah	Pembina			T.	.05				.19		.06	T.										.02		.25	.60								1.11
Hansboro	Red					.10						T.										1.00	.25	.10	.20								1.65
Hettinger	Grand																																
Hillsboro	Red							.02	.08		.02					.06							T.	.68	.20		.46	.14					1.66
Howard	Missouri			.01			.10				T.		T.					T.			T.				.27								0.38
Jamestown ‖ ‖	James								.20										.15					.02	.80		T.	.40					1.57
Lakota	Sheyenne			T.		T.		.02			T.	.01									T.	T.	.05	.40	.30		.20						0.98
Lamoine	Missouri							T.															T.	*	.50		*	.85					1.35
Langdon ‖	Pembina			.23					.13													T.	.15	.35	.56	.04		.16					1.46
Larimore ‖	Red			.02					.01			.01														.37							0.41
Lisbon ‖	Sheyenne								.10									T.	.10					.67	.52		.09	.25					1.73
McHenry	James							.06															T.	1.50			.50						2.06
McKinney	Mouse																																
McLeod	Sheyenne							.10															1.50	.35									1.95
Maddock	Sheyenne							.05														.13		.29	.36	.04	.09	.02					0.98
Mandan	Missouri							.02	T.							T.								.27	.67	.02		.13					1.11
Manfred	Sheyenne			T.				.06			.04	T.				.50							.21	.42	.25		.14					1.62
Manning	Knife							.06																.49									0.55
Marmarth	Lit. Missouri						T.		.01							.05				T.	.03			*	.62							T.	0.71
Marstonmoor	James				T.			.07	T.		.03	T.				T.			T.		T.		T.	.45	.02		.32	T.				0.89
Mayville	Red							.01	.08			T.									.01			.48			.45	.09					1.12
Melville	James																																
Milnor	Red							T.		.23	T.													.16	.38			.52					1.29
Minot ‖	Mouse								.01							.20								.06	.14	.21	.04						0.66
Minto	Red				.05							T.												.42	.80	.20		.15	.11				1.73
Mott	Cannon Ball									T.	T.										.02	T.	T.	.08	.76	.07							0.93
Napoleon ‖	Missouri							.05																.04	.50		.02	.56					1.17
New England	Cannon Ball															.08								.30	.37								0.75
New Rockford	James																				.10	.04	.01	2.25	.01								2.41
New Salem	Heart							T.		T.						T.								.38	.28	.26	.03						0.95
Orange	Cannon Ball																.40							.18	.59	.07						.03	1.27
Oriska	Sheyenne							.07			T.					.02								.53	*	*	1.08	.30					2.00
Park River	Red				.06			T.				.06										T.	.18	.68	.15		.14	.29					1.56
Pembina ‖	Red				.38				T.		.02	T.						T.				T.	T.	.75	.82			.26					2.23
Plaza	Missouri							.10																.17	.30								0.57
Power	Sheyenne						T.	T.				T.											T.	.45			.40						0.85
Powers Lake	Missouri			T.				.25																T.	.40								0.65
Ranger	Lit. Missouri							.06	T.		T.					.01	.01				.10		.04	.04	.62								0.88
Steele	Missouri							T.			T.				T.	T.							T.	T.			.29	T.					0.29
Towner	Mouse				T.			T.												T.			.33	.17	.16	.14							0.80
Turtle Lake	Missouri			T.				T.															.30	.68									0.98
University	Red				.03			.05			.01	.01											.02	.45	.17		.25						0.99
Wahpeton ‖	Red								.14	.04														.19	.11	.14	.04	.48					1.14
Walhalla	Pembina					.50					T.										T.		.10		1.06	.25	T.						1.91
Washburn	Missouri							T.			T.										.01	T.	.26	.32	.22								0.81
Westhope	Mouse			T.		.03		T.							T.								.11	.14	.25								0.53
Williston ***	Missouri			.04				.24							T.	T.					.07			T.	.33								0.68
Willow City	Mouse			T.	T.			T.			T.												.30	.10	.13	.15							0.68
Zap	Knife							T.			.01					.05					.02		.10	.07	.13								0.38
Moorhead, Minn ***	Red							.01	.03	.04	.03	.04				T.				.02				.46	.17	.04		.16	.15				1.15

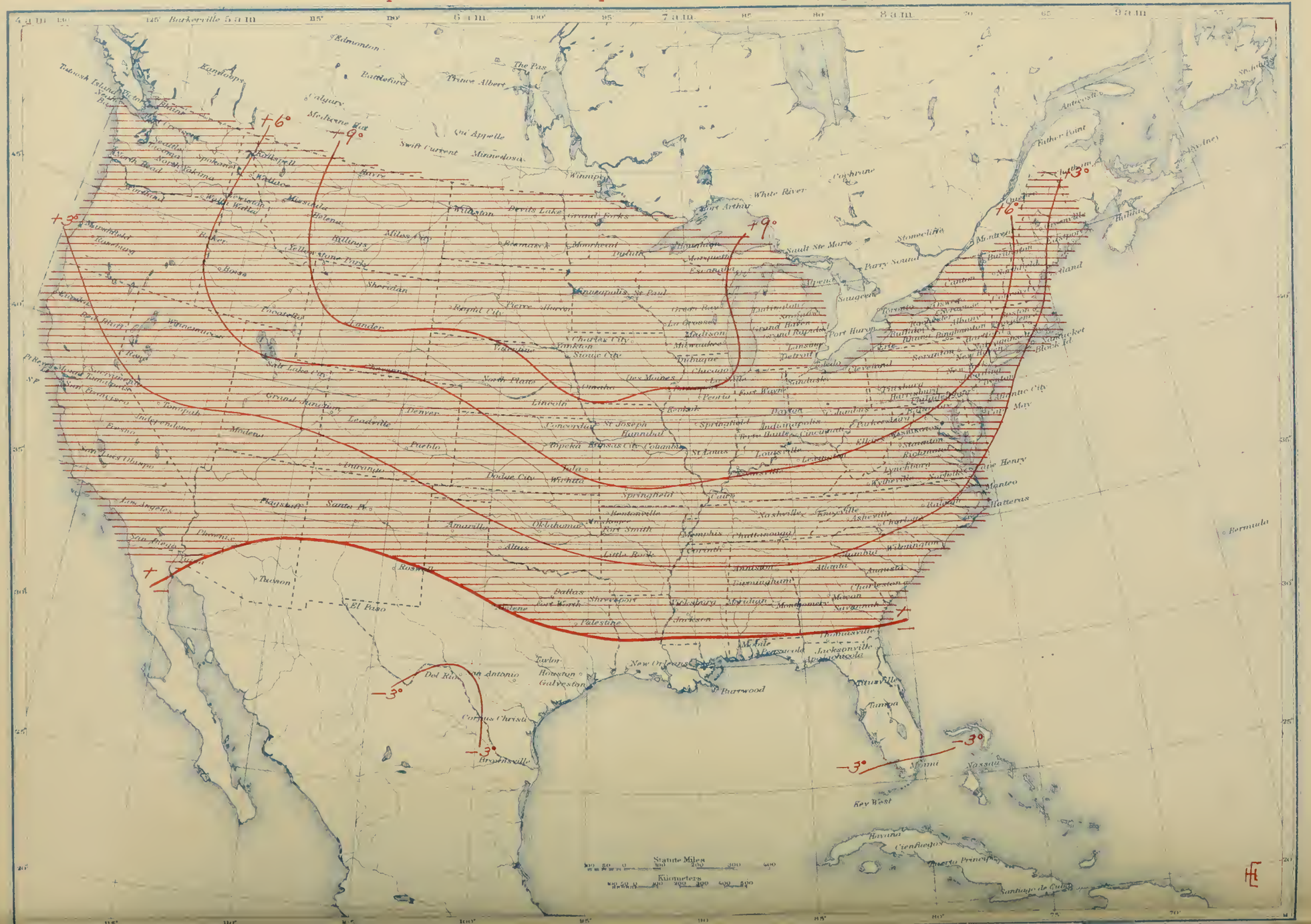
Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	44	48	56	67	48	58	51	60	66	60	41	49	65	76	72	74	84	77	78	69	83	81	51	71	66	56	74	64	67	65	..	64.0
	Minimum...	20	19	23	31	34	37	28	30	39	34	34	20	26	36	40	34	52	51	39	41	43	51	46	43	37	43	46	49	33	32	..	36.4
Aplin	Maximum...	48	54	78	67	60	62	52	72	64	57	55	62	80	86	72	79	85	..	77	80	88	67	58	48	67	67	81	65	72	68	..	[a]66.9
	Minimum...	12	29	32	31	34	29	32	32	35	34	29	28	35	45	50	40	50	—	40	42	55	42	37	37	38	36	41	43	30	40	..	[a]36.5
Ashley	Maximum...	43	33	55	67	53	50	43	58	52	53	50	48	68	84	74	78	81	78	83	75	80	61	48	58	68	58	76	63	66	63	..	62.2
	Minimum...	16	15	28	33	28	33	37	40	42	35	30	18	33	43	48	50	46	49	45	42	50	48	40	42	44	47	47	45	30	34	..	37.9
Beach	Maximum...	45	62	48	39	50	56	60	68	62	56	58	73	85	85	80	68	70	80	76	82	74	58	48	66	72	72	75	82	70	69	..	66.3
	Minimum...	30	36	37	30	28	28	38	37	32	36	26	36	45	56	46	40	37	48	43	42	44	36	35	36	48	46	48	50	45	39	..	39.3
Berthold Agency	Maximum...	49	55	76	67	57	63	57	71	63	57	61	65	83	82	69	79	82	78	83	81	89	64	44	44	68	69	79	76	78	70	..	68.6
	Minimum...	11	19	29	30	32	25	32	40	36	27	33	24	34	43	45	40	51	39	44	46	54	41	34	38	40	34	40	36	26	40	..	35.4
Bismarck	Maximum...	46	48	74	68	53	58	47	58	63	57	53	58	76	88	68	80	85	76	78	79	86	55	43	53	67	54	79	64	70	65	..	65.0
	Minimum...	14	20	29	32	32	27	36	40	38	34	28	22	36	45	50	44	53	49	48	44	55	42	40	40	40	44	45	42	31	40	..	38.0
Bottineau §§	Maximum...	44	49	68	64	55	64	54	69	59	58	45	60	80	82	67	76	85	74	68	64	87	45	43	45	57	61	77	64	68	65	..	63.2
	Minimum...	13	20	23	28	34	24	27	35	31	26	27	18	22	37	44	37	45	45	43	37	39	44	37	36	37	36	39	39	34	41	..	33.3
Bowbells §§	Maximum...	46	55	72	60	58	60	45	65	63	56	50	64	83	81	62	75	81	78	76	71	87	44	51	44	65	68	81	65	71	61	..	64.6
	Minimum...	9	19	26	32	27	25	32	36	34	30	30	20	29	43	41	32	38	33	36	38	39	35	35	35	34	35	41	35	31	34	..	32.1
Carson	Maximum...	38	48	76	67	58	52	48	64	63	54	56	60	78	86	73	78	85	78	80	78	86	66	45	48	68	62	78	66	70	66	..	65.8
	Minimum...	6	12	28	28	34	24	38	38	36	32	27	22	38	40	51	42	48	40	38	46	56	44	38	38	42	40	40	45	28	42	..	36.0
Crosby	Maximum...	45	56	64	57	55	63	54	65	58	59	50	66	82	—	76	72	79	76	—	70	75	59	61	54	64	74	78	65	70	65	..	[b]64.7
	Minimum...	11	27	29	35	33	26	32	33	33	33	32	20	37	—	38	39	46	36	—	39	46	36	37	36	39	37	40	37	34	40	..	[b]34.3
Devils Lake	Maximum...	40	47	72	68	44	61	54	59	58	58	44	52	70	83	67	72	82	73	71	64	83	50	42	55	54	55	77	62	66	62	..	61.8
	Minimum...	14	19	29	36	23	24	29	38	39	31	23	19	33	40	42	32	50	42	44	36	52	40	38	38	40	38	43	40	31	32	..	34.8
Dickinson	Maximum...	47	57	73	64	52	57	51	70	61	55	53	65	82	85	75	78	81	78	76	39	84	58	46	42	68	67	78	65	70	68	..	66.2
	Minimum...	11	14	29	32	32	26	38	37	31	35	27	26	32	43	47	40	46	38	40	43	48	41	37	36	38	38	39	39	38	43	..	35.5
Donnybrook	Maximum...	43	52	73	62	58	63	57	69	61	53	49	63	82	82	76	74	82	76	69	72	84	62	44	43	62	65	79	69	71	—	..	[a]65.3
	Minimum...	10	18	35	33	33	26	28	38	34	27	32	21	41	40	40	28	47	31	36	37	49	38	36	34	36	35	43	38	27	—	..	[a]33.5
Dunseith	Maximum...	40	47	65	63	52	63	53	63	—	57	42	56	77	80	65	74	83	71	66	63	85	61	41	46	54	60	77	65	66	61	..	[a]61.9
	Minimum...	12	15	26	35	33	25	27	38	—	—	27	18	32	44	45	38	49	42	40	36	48	40	37	36	37	33	45	36	32	39	..	[a]34.5
Edgeley	Maximum...	44	46	57	70	61	52	48	57	66	57	56	52	68	83	79	79	83	80	80	75	83	74	50	63	69	55	77	73	66	64	..	65.6
	Minimum...	14	14	27	30	31	37	31	39	42	33	31	15	28	29	50	40	46	49	42	42	43	50	41	40	42	44	48	49	31	31	..	36.3
Fessenden §§	Maximum...	43	48	70	66	49	63	52	61	63	54	45	57	75	88	70	75	84	74	76	71	84	49	42	59	55	52	77	63	66	65	..	63.2
	Minimum...	10	12	17	32	33	24	24	26	34	26	28	14	23	33	42	33	37	42	47	39	40	46	37	37	39	32	36	44	29	29	..	31.5
Forman	Maximum...	46	53	60	69	82	62	63	68	64	72	57	64	73	94	99	83	—	—	81	83	79	69	69	73	71	78	76	72	70	..	71.5
	Minimum...	19	19	32	31	32	32	34	40	42	31	33	22	36	40	49	45	57	50	42	41	53	54	42	42	42	51	52	48	31	34	..	39.2
Fullerton	Maximum...	42	44	52	69	59	51	45	56	64	55	53	35	67	81	71	77	82	77	79	74	80	68	51	63	70	57	77	64	64	64	..	63.0
	Minimum...	19	18	30	31	34	37	33	40	43	32	32	20	30	34	48	43	50	50	46	43	47	48	42	45	39	49	50	50	33	33	..	38.3
Garrison	Maximum...	46	53	74	65	59	64	52	70	65	57	52	60	79	83	73	76	83	74	72	87	82	42	50	—	63	65	78	—	71	65	..	[b]66.4
	Minimum...	13	17	26	36	34	26	26	39	35	30	30	18	31	39	47	38	45	38	36	41	40	37	36	—	39	36	50	—	28	36	..	[b]35.8
Grafton §§	Maximum...	41	48	63	62	48	63	60	57	61	62	38	53	69	76	70	75	83	73	71	67	83	57	46	59	59	58	73	64	68	64	..	62.4
	Minimum...	17	15	24	35	33	27	28	38	33	34	33	17	30	38	42	30	44	44	45	28	36	46	42	38	39	35	42	48	34	33	..	34.3
Granville	Maximum...	45	50	74	65	55	65	55	58	60	58	49	62	82	86	68	78	82	77	73	89	70	44	50	70	62	80	70	70	65	61	..	65.8
	Minimum...	12	14	27	30	22	25	22	24	30	30	24	18	32	42	42	46	48	40	39	58	40	38	38	39	34	38	43	29	38	31	..	33.1
Hannah	Maximum...	40	47	65	67	45	62	59	62	46	56	44	54	64	80	65	73	84	75	64	60	84	52	43	44	51	59	61	59	61	57	..	59.4
	Minimum...	10	21	27	31	32	23	27	31	33	27	25	13	29	38	41	28	45	34	85	23	41	38	34	33	36	28	36	34	28	31	..	30.4
Hansboro	Maximum...	47	49	69	69	49	75	58	63	62	—	46	50	77	82	75	80	91	82	70	68	—	—	52	44	63	68	87	66	—	—	..	[c]65.7
	Minimum...	11	11	11	32	32	25	26	38	38	—	28	15	32	41	26	40	44	40	34	28	—	—	36	35	35	31	46	42	32	34	..	[c]31.2
Hettinger	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Howard	Maximum...	44	58	61	56	45	62	46	60	60	50	55	69	84	86	73	77	78	78	66	66	68	59	70	53	67	74	77	63	72	72	..	65.7
	Minimum...	15	28	31	30	30	29	31	32	28	22	22	25	38	45	38	38	36	32	36	40	38	34	35	43	42	38	36	35	40	44	..	33.4
Jamestown §§	Maximum...	43	48	63	63	51	57	47	60	64	53	49	53	70	87	69	75	87	75	81	77	81	71	49	60	67	55	80	64	68	64	..	64.0
	Minimum...	12	18	18	26	31	33	27	29	36	29	30	18	19	23	41	39	41	48	50	47	48	52	41	42	45	42	47	48	34	38	..	35.1
Lakota	Maximum...	40	43	61	66	45	60	54	58	54	61	45	—	67	78	66	70	79	71	71	63	81	69	44	68	55	52	75	61	66	62	..	[a]61.6
	Minimum...	9	22	30	34	33	36	30	38	34	33	32	—	20	40	48	30	50	44	40	34	52	43	38	38	39	31	44	38	30	38	..	[a]35.4
Lamoine	Maximum...	41	46	70	67	53	79	48	58	63	56	56	56	75	88	81	80	82	74	74	73	84	73	40	55	60	64	77	70	67	63	..	65.8
	Minimum...	12	13	28	32	28	24	21	37	34	30	25	14	32	44	47	44	36	43	43	41	40	40	36	37	37	37	44	40	27	34	..	33.3
Langdon	Maximum...	38	45	63	64	42	62	58	55	55	55	45	50	69	76	76	71	81	70	67	61	82	55	41	47	54	58	72	70	64	60	..	60.2
	Minimum...	17	18	23	32	35	28	31	32	37	32	29	18	20	41	42	35	40	39	41	27	32	44	37	37	37	33	37	44	31	32	..	32.7
Larimore §§	Maximum...	40	48	59	61	59	60	57	57	62	62	36	49	65	76	68	71	82	72	72	72	81	54	44	59	59	52	70	62	64	61	..	61.1
	Minimum...	20	20	30	36	32	32	30	40	40	34	33	26	30	37	48	30	40	45	48	36	47	48	40	48	44	38	50	48	36	35	..	37.0
Lisbon §§	Maximum...	48	57	61	68	50	57	52	57	66	64	48	64	69	86	70	68	86	78	80	70	83	80	55	70	70	60	75	65	67	65	..	66 3
	Minimum...	17	16	24	29	27	39	29	34	40	30	34	14	24	36	46	41	42	45	40	42	47	50	40	42	40	49	49	50	31	35	..	36.1
McHenry	Maximum...	40	48	68	67	47	60	52	60	61	55	47	54	71	84	70	75	81	72	72	73	84	69	44	64	55	54	75	62	65	62	..	63.9
	Minimum...	15	15	28	34	30	25	28	30	33	29	28	15	32	40	47	33	50	45	42	39	49	43	39	39	37	37	45	43	30	34	..	34.5
McKinney	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Manfred	Maximum...	42	50	72	66	56	66	56	64	63	55	48	58	77	89	69	75	83	75	74	70	85	75	43	56	56	54	78	75	67	64	..	65.4
	Minimum...	13	14	30	30	30	26	25	39	32	26	28	15	32	58	47	32	47	44	46	40	56	41	39	38	42	35	47	45	30	32	..	35.3
Marmarth	Maximum...	45	60	67	60	57	47	47	67	59	55	60	68	82	80	68	76	76	76	80	79	75	58	46	43	69	77	79	67	74	63	..	65.3
	Minimum...	19	22	32	34	31	35	36	35	33	39	29	31	—	44	47	43	40	40	41	45	43	39	38	36	32	42	41	39	42	46	..	[a]37.0
Minot §§	Maximum...	46	52	77	73	58	67	50	74	60	68	58	68	84	90	74	78	85	82	75	76	98	53	45	44	61	65	90	76	82	77	..	69.5
	Minimum...	5	6	18	29	30	19	20	22	32	26	28	15	16	36	39	25	29	33	40	35	36	39	33	33	34	30	35	38	21	27	..	27.6
Mott	Maximum...	47	58	67	58	55	60	65	70	62	59	62	71	84	78	86	73	81	84	78	80	83	74	60	65	72	70	80	68	71	74	..	69.2
	Minimum...	13	17	29	35	33	37	35	38	34	29	32	28	43	40	39	38	40	43	42	45	48	41	38	36	37	36	38	33	35	34	..	35.5
Napoleon §§	Maximum...	46	49	67	70	54	54	44	62	64	67	53	57	75	87	70	80	85	80	82	78	83	50	48	59	67	53	78	65	70	65	..	65.4
	Minimum...	8	11	15	29	31	25	30	34	33	32	26	13	17	36	48	40	42	43	41	44	43	44	37	37	40	41	44	43	27	29	..	32.8
New England	Maximum...	50	56	70	67	70	53	50	68	63	56	64	70	82	87	74	78	80	78	76	80	83	64	50	43	65	68	77	68	71	69	..	67.7
	Minimum...	14	17	27	38	34	29	38	36	36	38	36	22	38	40	49	44	41	41	41	43	44	41	37	37	39	41	38	40	33	44	..	36.6
New Rockford	Maximum...	78	78	74	79	76	75	62	65	60	54	68	69	80	85	81	76	79	78	75	62	64	60	56	62	71	75	79	80	80	76	..	71.9
	Minimum...	41	39	42	43	33	18	30	30	28	22	40	35	41	38	52	44	45	43	48	33	54	43	35	40	43	46	42	45	35	39	..	38.9
New Salem	Maximum...	46	49	78	67	53	56	48	65	63	55	52	52	77	85	69	78	84	77	78	78	88	65	48	51	68	55	79	69	70	65	..	65.6
	Minimum...	13	11	32	38	30	35	33	37	42	37	27	18	34	40	46	38	53	44	47	41	54	40	41	46	40	38	40	44	32	37	..	36.9
Orange	Maximum...	45	45	68	64	55	45	44	60	63	53	57	58	75	84	68	76	82	78	83	78	85	56	44	47	69	58	78	66	70	69	..	63.9
	Minimum...	13	16	31	31	29	28	37	36	35	36	26	26	35	42	49	43	47	45	41	46	50	40	37	36	36	41	40	44	36	43	..	36.8
Oriska	Maximum...	42	46	52	62	48	58	55	56	64	62	50	48	66	78	78	72	82	78	75	82	80	70	65	64	66	74	74	71	68	..	65.5
	Minimum...	12	22	32	34	36	29	30	40	40	32	32	20	30	38	49	36	50	51	48	46	46	52	44	44	46	42	50	49	36	34	..	38.5
Park River	Maximum...	40	49	64	63	55	61	59	59	59	61	52	50	69	77	73	73	82	75	69	65	60	67	45	52	58	56	74	73	66	63	..	62.3
	Minimum...	29	20	33	27	36	33	36	39	39	45	22	35	23	36	33	37	57	48	46	30	35	40	40	38	38	41	48	56	35	36	..	37.4
Pembina §§	Maximum...	38	43	52	62	43	64	62	62	53	54	51	48	71	72	72	76	77	74	57	72	79	55	48	71	69	57	79	66	71	62	..	62.0
	Minimum...	21	18	28	34	38	28	29	38	36	36	32	22	36	41	41	36	48	46	44	31	44	42	38	36	41	38	47	49	34	34	..	36.2
Power	Maximum...	—	44	61	73	55	54	56	59	70	52	58	67	78	80	75	82	85	86	81	83	82	75	63	71	70	70	71	73	68	61	..	[a]69.1
	Minimum...	—	25	31	36	37	38	31	40	44	34	36	25	43	44	52	49	54	52	42	43	43	53	49	44	43	49	53	50	34	34	..	[a]41.7
Towner	Maximum...	44	51	72	72	60	65	56	68	65	60	60	61	80	87	83	75	86	79	73	68	88	81	43	54	56	60	81	78	70	67	..	68.1
	Minimum...	12	16	25	31	32	23	25	30	35	30	35	16	33	43	47	27	46	37	40	36	54	42	37	31	39	34	37	43	27	34	..	33.2
Turtle Lake	Maximum...	46	49	73	—	58	63	54	66	60	63	51	58	73	84	72	80	84	82	74	73	86	48	44	57	67	63	78	60	—	65	..	[b]65.4
	Minimum...	13	21	30	—	42	42	43	50	31	31	29	22	21	48	42	48	60	42	43	44	44	42	38	48	48	44	42	42	—	40	..	[b]38.9
University	Maximum...	41	47	58	63	47	61	57	55	63	63	41	50	65	75	69	73	82	72	72	67	82	68	51	69	58	54	74	63	66	61	..	62.2
	Minimum...	20	18	34	38	35	31	28	42	35	35	23	19	33	39	44	28	49	47	45	30	47	47	43	42	44	38	50	40	33	33	..	36.3
Wahpeton §§	Maximum...	42	46	55	62	51	51	48	55	63	56	46	48	60	76	72	73	83	75	78	69	81	78	72	74	79	68	71	65	65	62	..	64.1
	Minimum...	25	19	20	25	34	37	29	39	41	33	33	24	33	38	49	44	50	52	44	44	47	51	50	52	44	50	50	56	33	29	..	39.2
Washburn	Maximum...	45	48	74	68	55	60	55	64	63	60	—	59	76	86	80	79	85	79	77	77	86	70	45	51	63	62	79	65	71	70	..	[a]67.3
	Minimum...	15	20	30	37	34	30	35	40	36	34	32	22	35	45	50	40	53	44	45	44	67	43	39	38	41	41	43	—	33	38	..	[a]38.1
Westhope	Maximum...	45	51	73	62	59	64	61	76	70	59	47	62	82	83	74	67	76	85	74	89	90	80	56	42	59	65	81	75	70	86	..	68.8
	Minimum...	12	16	28	33	34	27	28	40	36	29	16	12	33	42	41	37	45	45	43	35	53	49	37	36	37	26	39	40	25	33	..	33.6
Williston	Maximum...	47	60	64	61	55	62	49	67	60	55	50	69	84	81	62	75	78	79	67	78	75	48	58	45	68	72	77	64	73	66	..	65.0
	Minimum...	18	28	29	32	36	29	36	36	35	36	31	32	44	53	45	42	50	39	41	47	47	39	39	38	40	37	44	40	40	45	..	38.3
Willow City	Maximum...	42	50	55	58	50	62	58	62	63	58	51	60	63	82	67	69	73	67	61	67	73	75	41	64	52	58	61	56	60	58	..	60.5
	Minimum...	10	12	25	33	35	18	22	38	23	25	23	12	28	43	45	30	25	35	36	34	36	38	37	36	35	34	33	30	25	33	..	29.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.

Departure of the Mean Temperature from the Normal, April, 1915.



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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MAY, 1915

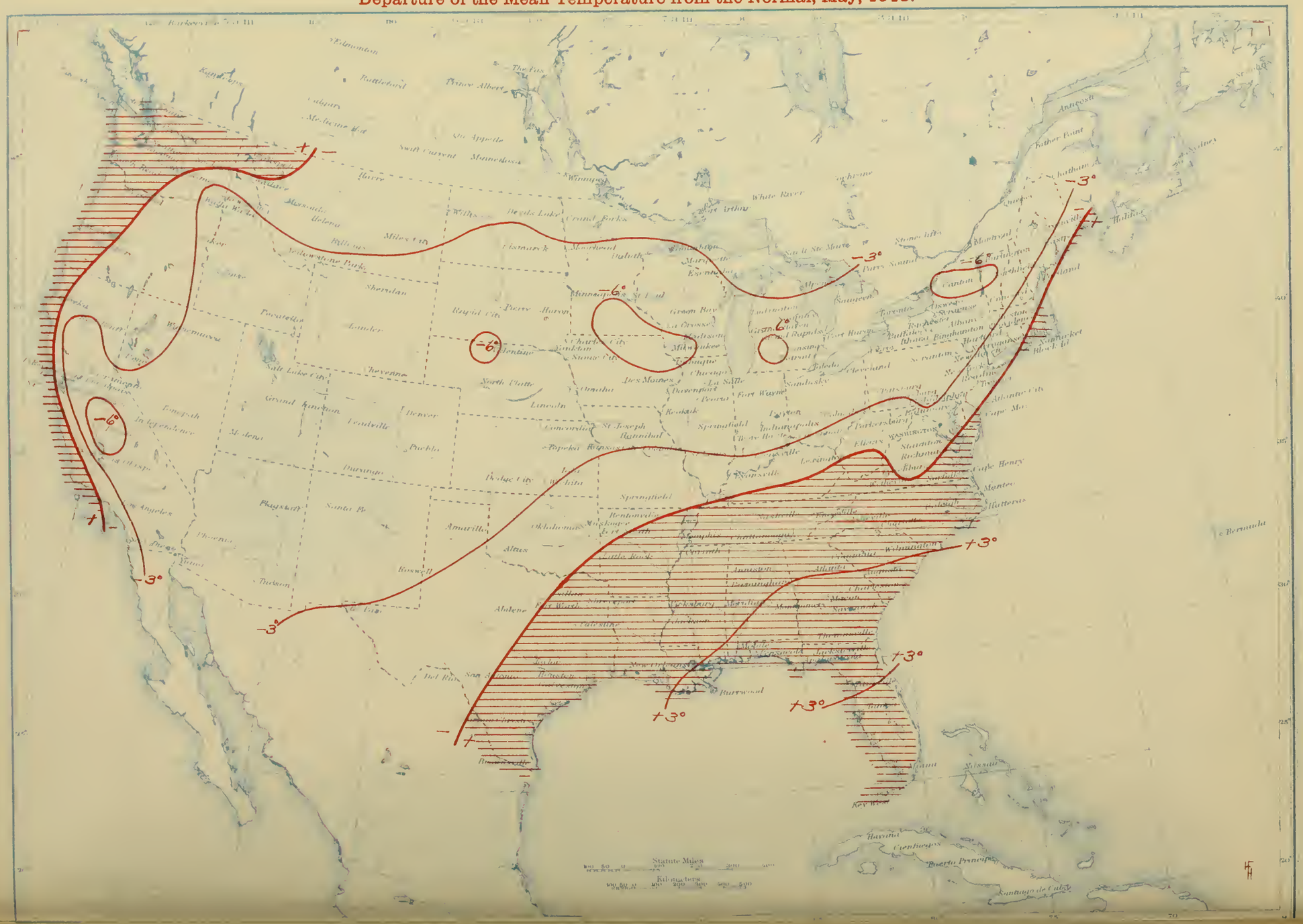
BY

ORRIS W. ROBERTS

SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JUNE 25, 1915.

Departure of the Mean Temperature from the Normal, May, 1915.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., MAY, 1915. No. 5.

GENERAL SUMMARY.

Taken as a whole, the weather during May was favorable for most crops. The low temperatures, cloudy conditions and excessive precipitation were very beneficial to small grains of all kinds, particularly to spring wheat, of which there is an increased acreage, and as a result of these favorable conditions crop prospects were never better than at the close of the month. However, heavy to killing frosts occurred in all parts of the State, and did some damage, principally to corn, fruit and garden stuff. The mean temperature for May was less than one degree higher than the mean for April. Pastures and grass land are in excellent condition, insuring an abundant hay crop. Owing to the large number of rainy days and the saturated condition of the soil, considerable delay to corn planting and flax seeding resulted.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.94 inches. The highest was 30.58 inches at Devils Lake, Ramsey County, on the 18th; the lowest was 29.40 inches at Moorhead on the 7th.

TEMPERATURE.

The mean temperature for the State was 51.1°, or 2.0° below the normal, and 4.1° lower than the mean for May, 1914. The highest mean reported was 54.9° at Cando, Towner County; the lowest was 46.9° at Willow City, Bottineau County. The highest temperature reported was 98° at Cando, Towner County, on the 27th; the lowest was 15° at Hannah, Cavalier County, on the 6th, and at Howard, Williams County, on the 8th. Usually the highest temperature was recorded on the 10th or 31st, and the lowest on the 6th or 8th. The greatest monthly range of temperature was 81° at Cando, Towner County; the least was 43° at Steele, Kidder County. The greatest daily range was 58° at Minot, Ward County, on the 10th. The distribution of temperature was fairly uniform. The first decade was the warmest, and the second the coldest.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 64.5 per cent, the average at 7 a. m. being 77.6 per cent, and at 7 p. m. 51.4 per cent.

PRECIPITATION.

The average precipitation for the State was 3.16 inches, or 0.59 inch above the normal, and 1.04 inch higher than the average for May, 1914. The greatest monthly amount reported was 5.00 inches at Mott, Hettinger County; the least was 1.14 inches at Lakota, Nelson County. The greatest amount recorded in any twenty-four consecutive hours was was 2.75 inches at Turtle Lake, McLean County, on the 14th and 15th. Nearly all of the precipitation occurred in the form of rain, although the average depth of snowfall for the State was 0.4 inch. The greatest depth of snowfall reported was 4.6 inches at Dickinson, Stark County. The average number of days with 0.01 inch or more of precipitation was nine. There were three stormy periods, from the 2d-7th, 13th-16th, and 25th-28th, inclusive.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 10.6 miles. The greatest wind movement was 9,360 miles at Devils Lake, an average of 12.6 miles per hour; the least was 6,614 miles at Moorhead, an average of 8.9 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 48 miles per hour at Bismarck on the 14th, considering only the records of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 10, partly cloudy 10, and cloudy 11.

ERRATA.

March, 1915: Page 20, New England, highest temperature and date should be 46° on the 24th*.

April, 1915: Page 28, Bowbells, number of days with 0.01 inch or more precipitation should be 6; Edgeley, total precipitation and departure should be 1.39, −0.40; Hannah, total precipitation should be 1.17; Langdon, total precipitation should be 1.62. Page 29, total precipitation at Edgeley should be 1.39; at Hannah, 1.17, and at Langdon, 1.62.

*Occurred on other dates also.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1892...	46.6	−6.5	96	13	2.21	−0.36	12	6	8	17	n.
1893...	52.2	−1.1	97	19	1.61	−0.96	6	11	8	12	se.
1894...	54.6	+1.5	98	23	1.51	−1.06	5	16	9	6	ne.
1895...	54.4	+1.3	101	15	2.48	−0.09	8	10	11	10	nw.
1896...	56.9	+3.8	103	22	4.89	+2.32	13	6	14	11	nw.
1897...	55.4	+2.3	97	16	0.71	−1.86	4	16	10	5	nw.
1898...	52.7	−0.4	92	14	1.98	−0.59	5	15	9	7	n.
1899...	50.6	−2.5	91	16	3.49	+0.92	8	9	9	13	se.
1900...	59.2	+6.1	106	15	0.69	−1.88	3	18	8	5	se.
1901...	60.0	+6.9	99	19	0.31	−2.26	2	21	4	6	se.
1902...	55.9	+2.8	94	24	3.57	+1.00	10	13	6	12	se.
1903...	54.3	+1.2	96	11	3.08	+0.51	4	14	8	9	s.
1904...	54.2	+1.1	93	20	1.76	−0.81	6	16	9	8	nw.
1905...	50.1	−3.0	88	10	3.05	+0.48	8	12	8	11	nw.
1906...	50.8	−2.3	99	11	4.63	+2.06	12	9	8	14	ne.
1907...	44.0	−9.1	84	6	1.11	−1.46	6	12	10	9	nw.
1908...	50.8	−2.3	88	9	2.97	+0.40	8	13	7	11	ne.
1909...	51.0	−2.1	98	5	4.29	+1.72	10	12	9	10	nw.
1910...	50.7	−2.4	94	10	0.96	−1.61	6	12	11	8	nw.
1911...	55.0	+1.9	99	6	2.88	+0.31	8	14	9	8	nw.
1912...	54.2	+1.1	90	16	4.52	+1.95	11	10	10	11	nw.
1913...	51.2	−1.9	100	11	1.68	−0.89	9	10	10	11	nw.
1914...	55.2	+2.1	95	16	2.12	−0.45	8	16	8	7	nw.
1915...	51.1	−2.0	98	15	3.16	+0.59	9	10	10	11	se.

Climatological Data for May, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	51.4	−3.1	82	31	27	18	44	3.96	+0.87	1.05	T.	14	12	3	16	n.	E. T. Carley
Aplin	Oliver	1,900	8	51.0	.....	85	12	25	†18	42	3.86	.....	1.00	1.0	12	11	10	10	n.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	49.5	−4.0	84	10	26	18	38	3.08	−0.92	0.85	0	12	10	7	14	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	50.4	.....	85	9	20	8	49	3.41	.....	2.10	0	9	8	12	11	se.	D. J. Steiner
Berthold Agency	McLean	2,082	21	[b]52.0	−2.3	[b]81	10	[b]22	8	[b]46	2.48	−0.27	0.81	0	9	9	13	9	e.	C. L. Hall
Bismarck	Burleigh	1,674	41	51.0	−4.2	83	10	24	18	38	4.43	+1.93	1.52	T.	16	7	7	17	e.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	52.2	−1.0	82	30	28	7	40	2.41	+0.13	1.17	T.	7	8	16	7	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	50.7	.....	82	10	18	8	47	2.64	.....	0.92	0	9	15	7	9	.....	G. H. Phelps
Bowman	Bowman	.....	1	48.8	.....	82	9	21	18	46	4.36	.....	1.85	0	12	5	0	26	.....	L. S. Diehl
Buford	Williams	1,944	36	.....	.....	.....	.....	22	8	.....	1.64	.....	1.00	0	4	6	16	9	e.	P. Elmore
Cando	Towner	1,488	14	54.9	+4.2	98	27	17	6	57	1.82	−1.01	1.05	T.	7	14	0	17	se.	E. T. Judd
Carson	Morton	.....	3	49.5	.....	82	10	23	† 6	41	4.55	.....	1.42	0	10	14	5	12	e.	D. L. Basquin
Colgate	Steele	1,177	1	51.4	.....	83	10	25	18	43	3.56	.....	1.60	0	15	15	4	12	se.	H. P. Rice
Crosby	Divide	1,954	8	52.2	.....	80	10	19	8	45	1.42	.....	0.92	0	3	20	4	7	se.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	50.7	−2.0	79	31	22	6	41	2.13	−0.07	1.37	0.4	9	7	9	15	e.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	49.4	−3.2	80	9	22	8	45	3.67	+1.09	1.33	4.6	13	3	19	9	ne.	L. R. Waldron
Donnybrook	Ward	1,760	16	50.4	+0.5	[a]82	10	21	8	[a]40	3.45	+0.88	1.57	T.	7	21	1	9	se.	Geo. Mitchell
Dunseith	Rolette	1,682	19	[b]51.2	+1.2	[b]82	31	[b]25	6	[b]42	2.18	+0.49	1.65	T.	5	.....	.....	.....	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	51.4	.....	82	10	20	† 7	44	3.23	.....	2.04	0	6	9	10	12	e.	J. Nussbaum
Edgeley	LaMoure	1,468	14	50.8	−2.8	86	10	27	18	40	4.54	+1.80	2.00	T.	10	1	10	20	e.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	3.63	.....	0.90	0	10	6	7	18	e.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.50	0	5	19	8	4	e.	M. E. Uggen
Fessenden	Wells	1,610	3	49.8	.....	84	10	26	7	47	1.88	.....	0.84	0.2	9	11	13	7	ne.	G. T. Seymour
Forman	Sargent	1,249	23	53.4	−2.1	88	10	28	† 6	40	3.43	+0.53	1.50	0	15	8	6	17	e.	A. Maltby
Fullerton	Dickey	1,439	17	51.0	−2.5	85	10	26	6	34	4.06	+0.85	1.30	0.7	10	10	7	14	ne.	F. O. Alin
Garrison	McLean	1,901	20	50.6	−2.4	81	10	22	8	48	3.07	+0.71	1.36	0.2	7	4	18	9	se.	G. L. Robinson
Goodall	McKenzie	2,200	1	51.8	.....	82	9	24	8	47	2.10	.....	1.35	T.	4	13	3	15	se.	C. H. Layman
Grafton	Walsh	827	23	51.2	−2.0	83	31	26	18	46	3.02	+0.79	1.73	T.	9	20	6	5	n.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	52.0	.....	84	10	25	6	29	3.80	.....	1.15	T.	7	10	7	14	ne.	G. H. Leick
Granville	McHenry	1,504	8	51.4	.....	79	10	26	18	45	2.72	.....	1.81	3.0	6	8	13	10	se.	W. A. Christianson
Hannah	Cavalier	1,568	10	48.7	.....	79	31	15	6	45	2.19	.....	1.74	2.0	6	10	6	15	se.	J. Moffatt
Hansboro	Towner	1,597	7	.....	.....	[t]91	30	22	6	[t]50	1.90	.....	0.90	4.0	5	5	20	6	se.	C. E. Blackorby
Hettinger	Adams	2,253	7	49.0	.....	80	12	22	7	40	3.17	.....	1.39	0	15	9	4	18	se.	A. J. Ogaard
Hillsboro	Traill	901	9	52.8	.....	80	31	29	18	36	4.35	.....	1.87	T.	15	15	9	7	ne.	F. E. Mayall
Howard	Williams	2,275	6	49.8	.....	86	10	15	8	51	1.72	.....	0.90	0	6	3	10	18	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	51.6	−2.0	86	10	26	6	47	3.90	+1.04	1.42	0	12	12	2	17	se.	T. Pettigrew
Lakota	Nelson	1,579	14	49.8	−0.3	79	31	24	6	44	1.14	−1.36	0.45	0.7	7	7	16	8	ne.	C. R. Pettes
Lamoine	Kidder	1,936	7	49.7	.....	84	10	21	6	42	1.92	.....	1.32	1.0	4	11	8	12	ne.	E. V. Virgin
Langdon	Cavalier	1,615	19	50.4	.....	80	31	21	6	40	2.03	.....	1.45	T.	8	16	3	12	ne.	R. T. Burke
Larimore	Grand Forks	1,134	20	50.9	−1.8	82	31	28	9	41	4.25	+1.87	2.72	T.	9	10	3	18	ne.	G. G. Graham
Lisbon	Ransom	1,091	11	51.4	−1.1	87	10	26	6	48	3.74	−0.03	1.23	0.2	10	10	6	15	nw.	W. S. Adams
McHenry	Foster	1,509	5	51.4	.....	83	10	23	6	43	3.57	.....	0.99	T.	9	11	11	9	ne.	P. E. Truden
McKinney	Renville	1,640	21	53.0	+0.9	88	10	22	† 8	55	2.98	+0.80	1.33	0	6	5	15	11	se.	N. P. Swenson
McLeod	Ransom	1,075	3	47.4	.....	79	9	18	† 6	58	2.68	.....	0.68	0	11	5	13	13	ne.	E. W. Griggs
Maddock	Benson	.....	.....	51.6	.....	82	10	21	6	48	2.41	.....	1.50	T.	9	13	2	16	se.	W. M. Jackson
Mandan	Morton	1,644	1	51.3	.....	[a]83	10	26	18	[a]40	4.98	.....	2.02	0	13	.....	.....	.....	.....	N. G't. P. F. Sta.
Manfred	Wells	1,605	12	51.6	+0.9	82	10	24	6	48	1.99	−0.73	1.42	0	5	7	16	8	e.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	2.66	.....	1.09	.....	7	.....	.....	.....	.....	No. Gt. Plains Field St.
Marmarth	Billings	.....	6	49.5	.....	81	† 9	23	8	45	3.70	.....	2.09	0.7	14	4	12	15	e.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	49.2	.....	87	10	22	6	51	3.98	.....	1.15	0.2	14	10	10	11	se.	H. H. McCumber
Mayville	Traill	975	19	52.5	−2.6	81	31	28	18	42	4.26	−1.31	1.52	0.5	11	11	8	12	ne.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	3.63	.....	1.20	0	10	9	8	14	e.	Hj. Edman
Minot	Ward	1,557	19	52.2	−0.1	90	†10	20	18	58	2.94	+0.83	0.85	1.0	7	6	19	6	ne.	W. I. Faris
Minto	Walsh	820	22	52.5	−0.9	82	31	25	18	43	3.28	−0.79	1.70	T.	8	16	9	6	e.	S. S. Marsh
Mott	Hettinger	2,424	8	52.0	.....	83	12	22	18	40	5.00	.....	2.01	0	13	7	8	16	e.	O. H. Opland
Napoleon	Logan	1,955	23	48.5	−4.3	87	10	20	18	47	3.62	+1.16	1.11	2.0	15	7	5	19	e.	C. J. Hoof
New England	Hettinger	2,400	21	50.8	−0.6	82	12	21	8	45	2.88	+0.63	1.10	0.5	11	8	12	11	ne.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	2.48	.....	2.25	0	5	12	9	10	se.	H. H. Maxwell
New Salem	Morton	2,163	10	49.2	−2.5	84	10	22	18	34	4.35	+1.79	0.94	0	11	6	16	9	se.	J. Christiansen
Orange	Adams	2,586	6	48.4	.....	80	10	22	18	37	4.73	.....	2.17	0	10	7	12	12	se.	J. E. Goforth
Oriska	Barnes	1,270	10	51.6	−1.2	82	11	26	6	38	3.87	+0.73	1.43	0	11	2	21	8	s.	J. J. Taylor
Park River	Walsh	998	11	52.4	+0.7	80	31	27	18	38	2.91	+0.48	1.64	0.2	9	8	18	5	s.	G. M. Hargrave
Pembina	Pembina	789	41	54.0	+1.6	88	30	29	18	44	1.42	−1.21	0.44	T.	9	10	8	13	sw.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.19	.....	2.05	0	4	14	10	7	e.	J. A. Johnson
Power††	Richland	1,020	23	54.2	−0.3	86	12	27	18	53	4.85	+2.03	1.45	2.0	10	8	10	13	ne.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	2.05	.....	1.00	0	6	13	13	5	e.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	3.27	.....	2.38	0	7	8	7	16	nw.	C. M. Hubbard
Steele	Kidder	1,857	18	[b]52.8	−1.1	76	12	[a]33	2	[b]36	4.84	+2.45	1.50	0	10	.....	.....	.....	se.	H. S. Wood
Towner	McHenry	1,482	13	52.2	−1.0	79	10	26	† 7	44	3.22	+0.31	2.52	4.0	5	7	14	10	se.	B. Bagley
Turtle Lake	McLean	1,899	3	52.4	.....	80	10	25	18	38	3.30	.....	2.75	1.5	5	7	16	8	se.	E. J. Jones
University	Grand Forks	830	23	51.8	−1.9	81	31	27	18	40	3.36	+0.80	1.94	0.1	13	10	11	10	ne.	U. S. Weather Bureau
Wahpeton	Richland	962	21	51.8	−4.0	81	†10	28	18	38	3.61	+0.81	1.13	0	16	9	9	13	se.	F. E. Smith
Walhalla	Pembina	966	8	[b]52.8	.. ...	[a]83	31	[b]20	17	[c]46	2.44	.....	1.78	T.	4	23	6	2	s.	I. DeL. Lee
Washburn	McLean	1,734	17	52.6	−0.9	83	10	26	18	36	3.25	+0.87	1.85	T.	11	11	8	12	e.	A. Wacker
Westhope	Bottineau	1,508	9	[b]52.2	.....	81	9	22	7	39	2.45	.....	1.67	0	7	13	14	2	se.	C. M. Condit
Williston	Williams	1,875	36	52.4	−1.9	80	9	22	8	46	1.95	−0.31	0.83	0	8	6	12	13	se.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	46.9	−5.0	75	31	21	9	45	3.09	+1.09	2.23	2.0	6	9	19	3	se.	M. A. Ostby
Zap	Mercer	1,800	2	50.7	.....	83	10	22	8	45	4.46	.....	0.97	0.5	12	12	7	12	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	51.7	−3.1	80	31	29	18	40	3.93	+0.98	1.46	2.0	17	12	6	13	e.	U. S. Weather Bureau
Averages		.....	.....	51.1	−2.0	98	27	15	† 6	58	3.16	+0.59	2.75	0.4	9	10	10	11	se.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

*Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for May, 1915.

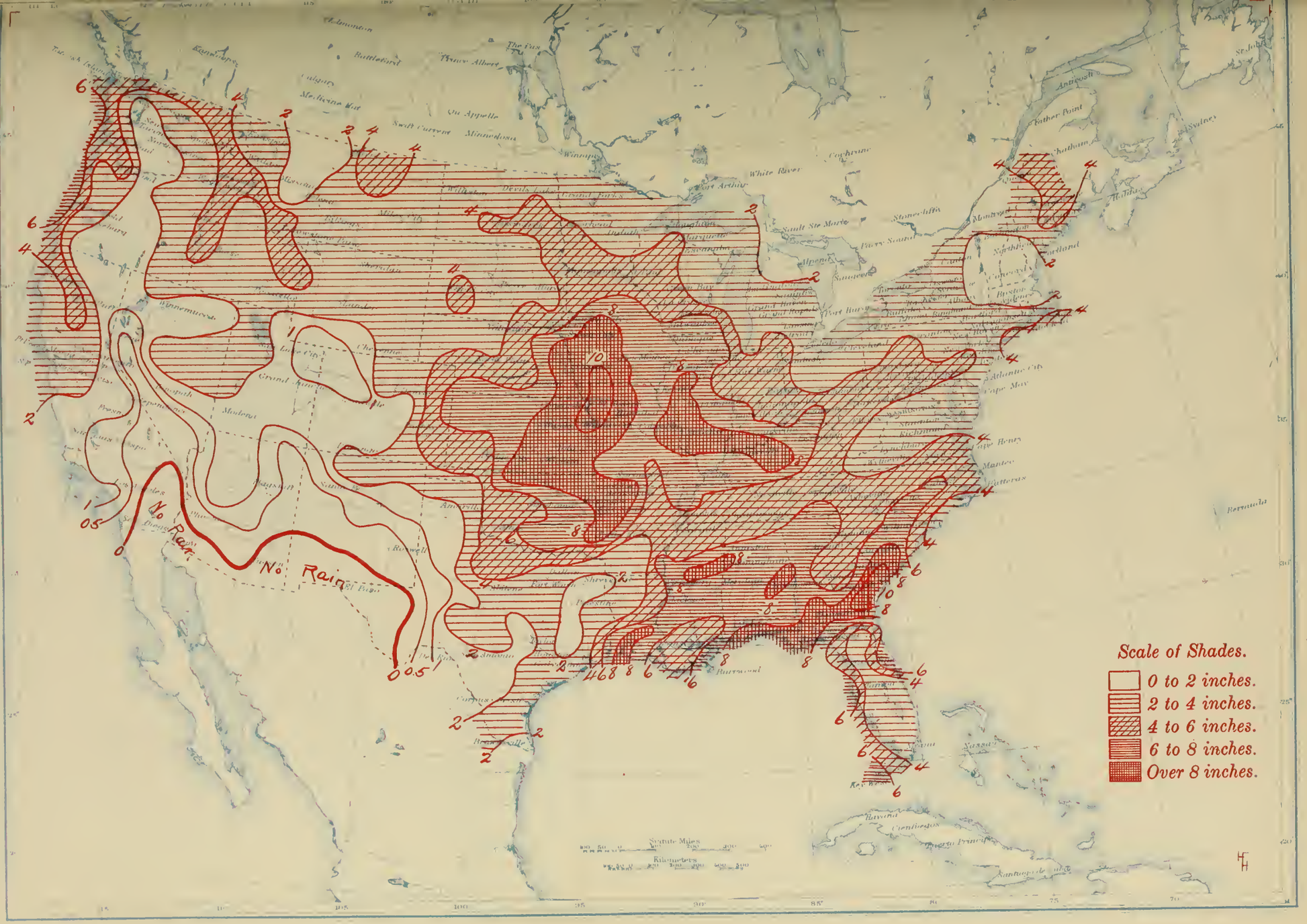
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red			1.05	.14	T.	.23	.12	.16			.08	T.	.02	.18	.79	.86		.04			.14	T.			.03			T.	.12			3.96
Aplin	Knife			.13	.04	.10				T.	.01		.01		.16	.86	.10				T.	.24				.75	.46	1.00					3.86
Ashley	Missouri		.85	.25	.05	T.	.18	T.						.27	.19	.80	T.					.04	.05			.16		.11	.13				3.08
Beach	Lit. Missouri	T.	.10	.07		T.		T.			T.	T.	T.		.10	.34		.02			T.	T.				.39	2.10	.22		T.	.07		3.41
Berthold Agency	Missouri	.06								T.	.05		T.	.01	.03	.81	.01								.11			.80					2.48
Bismarck ***	Missouri		.78	.10	T.	.06	.01	T.		T.	.08	T.	T.	.01	1.24	.45	.01				.05	.21			.44	.34	.27	.29	.09				4.43
Bottineau ‖ ‖	Mouse					.02			T.		.09	T.		.09	.09	1.17	.94											.01	T.				2.41
Bowbells ‖ ‖	Mouse					.08			.10		.03			.05	.10	.73	.92											.55	.08				2.64
Bowman	Grand		.65	.10		.10								.05	.30		.05				.50	.30				.08	1.85	.18			.20		4.36
Buford	Missouri		.01	T.									T.	T.	.09	.54									T.	T.	1.00	T.		T.			1.64
Cando	Sheyenne					.02					.11	.03		.36	.09	1.05	.16																1.82
Carson	Heart		.60	.47	.03	.05					T.				.56	.25	.05					.21				T.	.91	1.42					4.55
Colgate	Sheyenne			.85	.01		.05	.20	.03		.03	.04		.08	.12	1.60	.15	.03			T.	.18	T.		T.				.12	.07			3.56
Crosby	Mouse							T.					T.		.35	.92										.15							1.42
Devils Lake ***	Sheyenne			T.	.06	.08	T.	.07		.02	.33		.03	.02	.17	1.35		T.				T.											2.13
Dickinson	Heart	T.	.79	.01		.06				.07	T.		.03	T.	.21	.48	.01				.03	.46			T.	.07	1.33	.12		T.			3.67
Donnybrook	Mouse				T.		.10			.01				.30	.20	1.57	.05										1.22						3.45
Dunseith	Mouse			T.	T.				.10	T.		T.	.11	.07	1.65	.25																2.18
Cekman	Mouse			T.	.04	T.				T.		T.	.41	.15	2.04	.22							T.				.37					3.23
Edgeley	James		2.00	.65	T.	.07					.06			.36	.79	.12				.08	.06				.35								4.54
Energy	Missouri	T.	.07	T.	T.	T.	T.		T.	.10			.12	.90	.65	.12					.10				.40	.75	.42						3.63
Epping	Missouri	T.							T.			T.		.05	1.50	.03										1.05	.32						2.95
Essenden ‖ ‖	James			.02	T.	.03	.06		.03		T.	T.		T.	.23	.84	.61					.04	T.						T.	.02			1.88
Forman	Sheyenne			1.50	.06		.16		.09		.03	.02		.02	.22	.41	.23				.02	.03			.11	.44				.09			3.43
Fullerton	James		1.30	.68	T.	.07		T.			.08	T.		T.	.24	.66	.09	T.			T.	T.			.12	.52		T.	.30				4.06
Garrison	Missouri	T.			T.	.02	.08				T.		T.		.28	1.36	.05				T.	T.				T.	.10	1.18					3.07
Goodall	Missouri					T.									.15	1.35											.35	.25					2.10
Grafton ‖ ‖	Red				T.	.05	.06	.22	.06		.10	.20		.11		.49	1.73																3.02
Grand Rapids	James		1.70	.10		T.		T.			T.				.50	1.15					.10					.15			.10				3.80
Granville	Mouse					.12					T.			.18	.18	1.81	.17											.26					2.72
Hannah	Pembina				.05	.20		T.		.14	.06					*	1.74																2.19
Hansboro	Red					.40		.10		.20						.90	.30																1.90
Hettinger	Grand		1.39	.01	.10									.07	T.	.01	.03				.09	.11	.05		T.	.14	.38	.72	T.		.01	.02	.04	3.17
Hillsboro	Red			1.04	.02	.06	.10	.24				.35	.03	.05	.09	1.87	.19	.03				T.	.10	T.						.10	.08			4.35
Howard	Missouri	T.		T.				T.		T.	T.	T.	T.	T.	.01	.99	.01									.01	.78	.01						1.72
Jamestown ‖ ‖	James			1.42	.15	T.	.03		.02						.40	.82	.47	T.				.15	.03			.26			.12	.03			3.90
Lakota	Sheyenne			T.	T.	.02	.01	.20			T.			T.	.05	.40	.45	.01				T.							T.				1.14
Lamoine	Missouri					.10		T.								1.32	.35					T.	.15											1.92
Langdon ‖	Pembina				T.		.03	.03	.06			.10	.08		.14		.14	1.45																2.03
Larimore ‖	Red					.23		.06	.32	.07	T.		.68		.07	.08		2.72												.02			4.25
Lisbon ‖	Sheyenne		T.	1.23	.05	T.	.03	T.	.18						.47	.78	.47		T.		T.	.05	T.	T.		.28	T.		T.	.20			3.74
McHenry	James	.02	T.	.10	T.	.06		T.	.13		.99			.10	.27	.93	.97	T.				T.											3.57
McKinney	Mouse							T.						.40	.50	*	1.33									*	.75						2.98
McLeod	Sheyenne			.03	.20		.03	.20	.01						.25	.65	.30	.11								.68			.22				2.68
Maddock	Sheyenne				.01	.01		.05			.38		.02	.02	.20	1.50	.22																2.41
Mandan	Missouri			.60	.02	T.	.03	.01	T.			.08			.16	2.02	.09					.25	.04			.75	T.	.72	.21					4.98
Manfred	Sheyenne				T.	.05		T.			.05		T.		.25	1.42	.22					T.						T.					1.99
Manning	Knife		.59							.09				.08	.29	.12										.40	1.09						2.66
Marmarth	Lit. Missouri	.01	.28	.08	T.	.06							T.	.08	.16		.03					.32		T.	.03	.13	2.09	.26			.08	.09	3.70
Marstonmoor	James		.24	.74	T.	.20		.06			.20	.35	T.	.10	.25	1.15	.14				.02	.17				.13			.23	T.			3.98
Mayville	Red			.86	T.	T.	.08	.25		T.		.81		.04	.11	1.52	.31	.02				.10							.16				4.26
Melville	James																																
Milnor	Red		T.	1.20	.15	.08	.08	T.							.44	.60	.38	T.			.12	T.				.36			.22				3.63
Minot ‖	Mouse					.10								.14	.20	.85	.71												.52	.42			2.94
Minto	Red				.04		.07	.26			.05	.45		.11		1.70	.60	T.											T.				3.28
Mott	Cannon Ball	.02	.66	.11		.10				T.				.11	.74	.28	.08				.05	.26		T.			2.01	.55				.03	5.00
Napoleon ‖	Missouri			1.11	.14	.03	.08		.02		.07				.62	.44	.10					.12	.01	.02		.75		.02	.09				3.62
New England	Cannon Ball		.40	.13								.10		.04	.47	.18						.15	.03			.25	1.10	.03					2.88
New Rockford	James										T.	.01	.01	T.	2.25	.01	.20																2.48
New Salem	Heart		.82	.19		.15	T.							T.	.20	.81	.07				T.	.23				.11	.81	.94	.02	T.			4.35
Orange	Cannon Ball	T.	.52	.30		.03								T.	T.	.05	.04				.14	.04				.76	2.17	.65		T.	T.	T.	4.73
Oriska	Sheyenne			1.17	.04	.04	.09	.10	.07				T.		.30	1.43	.38	.03			T.					.22			T.				3.87
Park River	Red				.07	.05	.04	.38			.14				.04	1.64	.53	.02																2.91
Pembina ‖	Red					.04	.26	.44	.12			.04	T.			.04	.40	.04	.04															1.42
Plaza	Missouri														.65	1.40											.31	.83						3.19
Power	Sheyenne		1.45	.80			.20	.45				.10		.31		1.02		T.			.17				.15				.20					4.85
Powers Lake	Missouri					T.				T.		T.	T.	.30	.20	1.00	.15									T.	.15	.25						2.05
Ranger	Lit. Missouri	T.	.33	.05				T.							.10							.15				.02	2.38	.24	T.	T.	T.		3.27
Steele	Missouri		1.34	.03											.40	1.50	.27				T.	.22	.02		T.	.65		.08	.33				4.84
Towner	Mouse				T.	.13				T.		T.		.22	.17	2.52	.18											T.					3.22
Turtle Lake	Missouri				T.	.10	.05	T.		T.	T.		T.	T.	*	2.75					T.	T.						.40					3.30
University	Red			.13		.05	.09	.35		.04	.60			.08	.03	1.71	.23	.01				.01								.03			3.36
Wahpeton ‖	Red			1.13	.14	.17	.13	.10	.06				.07		.18	.35	.47		.02		.05	.13				.31				.29	.01		3.61
Walhalla	Pembina					T.	T.	.48	.08		T.	.10			1.78																		2.44
Washburn	Missouri		.11	.02		T.		.02			.10		.04		.25	1.85	.05					.11				.10	T.	.60	T.	T.			3.25
Westhope	Mouse								.02	.27		T.	.03	.03	1.67	.05											.38						2.45
Williston ***	Missouri			T.							T.	.04	.08	T.	.27	.68	T.					T.			.01	.03	.74	.10					1.95
Willow City	Mouse				T.	.20		T.		.01	T.	T.	.45	.15	2.23	.05																	3.09
Zap	Knife		.36			.42				.02			.05	.13	.42	.48	.08					.14				.51	.88	.97					4.46
Moorhead, Minn ***	Red		.84	.65	.05	.20		.33			.14	.01	.01	.01	.15	1.01	.06	.04				.22				.06		.01	.14				3.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	58	50	47	60	49	47	56	58	73	81	80	62	74	71	50	53	45	59	63	57	49	58	70	74	76	68	67	59	75	78	82	62.9
	Minimum	39	37	37	37	41	31	33	33	30	46	45	43	46	49	46	35	30	27	31	40	41	41	45	41	51	42	40	46	47	38	53	40.0
Aplin	Maximum	62	56	47	55	52	55	56	62	76	84	77	85	74	68	64	53	57	55	60	51	52	67	72	72	68	60	55	65	64	70	74	63.6
	Minimum	42	34	35	27	29	28	31	25	34	50	48	44	43	48	41	35	27	25	15	37	40	44	35	59	52	50	45	41	40	38	39	38.4
Ashley	Maximum	54	50	42	53	53	48	48	56	72	84	77	78	76	71	58	56	52	53	56	52	48	62	68	67	66	59	57	56	56	66	70	60.1
	Minimum	45	32	33	37	32	28	32	30	35	46	45	46	48	51	48	34	31	26	29	41	38	42	33	37	54	42	45	41	44	45	35	38.9
Beach	Maximum	54	49	46	54	49	51	54	69	85	75	75	78	80	74	60	50	56	55	59	51	57	68	68	69	69	58	65	65	61	62	65	62.3
	Minimum	43	33	36	35	32	33	37	20	48	37	46	48	47	53	39	30	32	26	66	36	39	40	30	34	49	49	49	41	29	40	45	38.4
Berthold Agency	Maximum	56	50	53	57	56	62	57	63	79	81	75	74	77	74	65	56	61	57	–	62	70	–	77	77	76	62	56	69	68	74	74	[b]66.1
	Minimum	38	39	49	38	29	28	27	22	33	36	41	42	48	51	42	35	25	26	–	30	43	–	35	41	52	50	48	41	45	39	37	[b]38.0
Bismarck	Maximum	55	45	50	55	45	53	57	61	76	83	76	76	76	70	54	50	55	54	59	53	50	66	69	69	70	60	58	61	63	72	73	61.7
	Minimum	45	39	38	40	30	30	32	30	38	48	48	46	49	54	37	36	30	24	29	42	40	46	35	44	55	48	46	43	45	39	41	40.2
Bottineau §§	Maximum	63	57	57	62	50	58	56	60	68	71	76	70	71	71	52	51	46	55	61	65	64	69	74	73	72	66	65	73	75	82	80	64.9
	Minimum	42	35	39	41	29	29	28	29	34	44	38	40	49	52	45	34	30	29	34	39	37	37	44	45	46	48	47	48	46	42	40	39.4
Bowbells §§	Maximum	58	67	55	62	49	60	51	64	72	82	75	70	72	71	47	53	53	55	60	64	62	68	75	75	72	63	58	66	72	73	75	64.5
	Minimum	41	28	37	35	26	31	34	18	25	48	40	40	45	46	43	30	30	25	28	27	37	42	48	44	43	43	48	43	39	42	39	36.9
Carson	Maximum	56	50	47	54	48	53	60	62	76	82	75	78	77	68	58	48	58	55	58	52	47	65	68	67	66	62	54	60	58	65	58	61.1
	Minimum	42	32	36	39	30	23	28	25	35	44	47	42	48	53	40	36	23	24	26	40	37	43	30	36	50	48	45	42	42	42	46	37.9
Crosby	Maximum	65	56	52	65	56	63	55	64	72	80	73	70	74	66	62	51	57	60	60	64	66	72	76	75	72	67	65	69	71	75	76	66.1
	Minimum	39	27	37	39	24	37	36	19	34	39	47	48	46	51	39	30	30	26	32	32	38	42	39	46	45	45	49	44	40	48	40	38.3
Devils Lake	Maximum	62	55	52	60	46	46	57	57	70	78	76	70	71	69	54	48	42	54	60	58	53	61	69	73	72	65	65	68	75	77	79	62.6
	Minimum	41	33	38	41	29	22	32	32	29	43	49	41	49	50	35	37	29	26	32	37	40	42	34	40	47	44	45	48	48	42	49	40.7
Dickinson	Maximum	63	49	45	53	47	56	53	64	80	78	74	75	77	69	60	49	57	54	57	52	50	65	69	72	65	60	56	62	61	63	65	61.3
	Minimum	43	32	32	37	31	28	30	22	35	39	46	44	44	51	39	35	28	24	29	37	38	40	33	43	49	45	47	37	40	46	41	37.6
Donnybrook	Maximum	60	57	53	59	50	57	49	61	73	82	74	67	70	–	67	51	52	54	61	61	61	70	74	74	73	65	55	66	70	73	75	[a]63.8
	Minimum	41	28	38	38	27	31	33	21	28	34	43	38	47	49	38	32	28	23	27	39	39	39	42	47	46	44	48	44	40	39	40	37.1
Dunseith	Maximum	61	54	56	61	57	56	55	57	67	69	74	68	71	69	64	50	45	55	61	64	68	72	73	70	66	66	–	–	74	79	82	[b]64.3
	Minimum	40	32	38	42	28	25	27	31	30	44	39	40	48	51	37	32	32	30	35	38	38	40	40	45	45	48	–	–	47	40	40	[b]38.0
Edgeley	Maximum	60	54	43	57	50	49	60	56	73	86	81	77	76	71	61	51	49	49	60	55	48	57	67	68	67	67	62	59	67	73	75	62.2
	Minimum	49	37	33	40	31	29	33	33	48	49	47	47	51	47	34	33	27	29	41	38	42	34	33	53	44	43	44	44	40	39	39.5
Fessenden §§	Maximum	58	52	52	58	42	54	60	59	75	84	78	68	73	68	44	50	51	54	60	57	53	62	69	75	75	67	64	62	73	76	78	62.9
	Minimum	37	35	37	37	33	24	26	27	28	40	44	38	45	50	41	33	31	25	27	35	39	40	31	36	48	46	45	45	46	34	37	36.8
Forman	Maximum	66	55	48	57	58	52	64	57	72	88	82	80	78	75	76	72	49	59	62	59	48	58	69	69	71	70	64	59	70	78	73	65.7
	Minimum	46	40	38	40	34	28	39	34	32	52	47	42.	50	50	50	35	30	28	32	43	41	42	38	42	45	42	45	46	38	47	41.0
Fullerton	Maximum	56	53	44	56	53	48	61	57	71	85	80	77	76	67	52	50	53	54	59	51	47	58	68	69	67	65	60	54	66	69	75	61.5
	Minimum	45	38	36	41	32	26	35	33	37	52	48	47	48	51	46	38	31	27	29	33	39	43	36	48	54	44	43	45	46	46	41	40.6
Garrison	Maximum	57	56	55	56	48	56	53	62	78	81	75	71	76	71	64	51	54	55	59	62	55	68	74	73	73	66	53	65	69	73	74	64.0
	Minimum	40	36	34	35	28	25	23	22	30	40	46	39	48	51	37	34	31	25	30	32	40	42	35	40	52	48	45	42	43	38	39	37.1
Grafton §§	Maximum	66	57	58	65	36	40	37	56	70	81	78	68	73	71	45	53	48	59	64	65	55	67	70	76	71	71	67	68	78	79	83	64.4
	Minimum	41	32	36	36	32	31	32	32	27	45	49	44	45	49	42	37	30	26	30	37	43	37	33	38	47	40	37	45	50	36	37	37.9
Granville	Maximum	62	60	63	59	49	57	53	63	74	79	75	72	75	75	60	50	50	57	61	62	62	60	65	69	75	67	62	70	72	75	77	64.8
	Minimum	40	31	40	39	30	32	29	28	29	40	44	48	50	55	38	35	30	26	29	31	42	32	40	30	48	42	48	48	42	43	43	38.1
Hannah	Maximum	61	54	56	65	46	47	59	55	66	74	76	67	70	72	60	57	45	57	60	66	60	68	74	68	67	69	68	74	78	78	79	64 4
	Minimum	33	34	32	34	27	15	30	26	21	38	38	35	37	41	35	32	28	20	25	29	35	35	36	42	35	36	34	41	46	39	35	33.0
Hansboro	Maximum	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	65	68	76	77	74	79	75	85	84	91	90	———
	Minimum	46	27	38	38	27	22	28	31	25	36	44	37	41	46	36	32	30	33	30	32	29	36	45	37	44	38	39	44	49	41	45	36.3
Hettinger	Maximum	49	40	44	51	45	57	62	62	79	78	75	80	77	63	59	52	57	54	57	45	49	63	69	71	64	50	56	59	53	57	62	59.3
	Minimum	40	30	36	31	27	30	22	35	42	45	50	46	56	46	35	25	24	31	38	36	38	32	42	50	48	46	40	39	47	48	48	38.8
Howard	Maximum	57	55	50	62	54	64	52	66	78	86	73	72	72	84	55	51	57	54	60	60	61	69	71	75	66	63	64	67	68	65	71	64.6
	Minimum	40	48	35	36	22	26	28	15	30	34	42	42	43	42	38	31	28	23	30	25	34	38	38	41	48	44	43	47	38	38	42	35.1
Jamestown §§	Maximum	62	45	45	57	48	50	63	58	75	86	81	72	75	67	50	51	51	54	68	53	53	59	69	76	72	67	65	62	78	76	81	63.5
	Minimum	43	40	34	36	41	26	31	32	30	39	47	43	49	53	46	35	33	29	33	41	39	41	40	39	45	45	44	45	45	43	40	39.6
Lakota	Maximum	61	53	54	63	47	41	61	67	70	77	77	70	71	71	61	51	42	55	61	61	51	61	68	71	70	67	68	55	75	76	79	63.1
	Minimum	40	32	34	34	32	24	35	32	26	44	42	39	47	40	35	35	29	25	29	40	40	38	32	38	47	44	40	44	45	35	37	36.6
Lamoine	Maximum	58	56	50	56	47	52	57	58	75	84	77	70	72	67	58	48	52	52	59	56	52	59	67	58	73	65	62	63	68	73	75	61.9
	Minimum	44	38	35	37	28	21	28	38	33	44	44	42	46	50	32	31	27	24	27	33	42	41	42	38	51	45	46	42	44	35	36	37.5
Langdon	Maximum	62	56	56	61	37	46	57	61	70	72	74	67	71	70	51	48	43	56	62	65	58	68	70	75	75	68	63	72	76	78	80	63.5
	Minimum	40	30	35	35	30	21	29	31	30	44	44	41	41	48	41	35	31	25	33	36	40	37	36	39	45	39	40	45	48	42	45	37.3
Larimore §§	Maximum	60	57	50	62	38	40	56	54	69	78	74	64	69	69	41	49	43	54	61	60	49	62	68	74	73	69	66	65	75	78	82	61.6
	Minimum	41	35	38	40	40	29	34	33	28	48	50	46	46	41	40	34	35	30	35	40	40	40	48	42	50	42	40	48	48	38	48	40.2
Lisbon §§	Maximum	65	62	45	58	57	48	63	68	72	87	82	75	76	58	50	54	50	58	62	54	52	64	70	72	78	69	63	55	60	75	80	63.9
	Minimum	41	39	36	36	40	26	30	33	30	39	45	47	50	50	47	35	29	29	30	35	40	40	35	38	40	45	40	45	45	42	50	38.9
McHenry	Maximum	59	56	57	58	49	46	60	57	73	83	75	68	70	67	59	50	46	56	61	60	50	63	69	78	74	69	69	70	77	79	81	61.0
	Minimum	49	35	36	37	28	23	33	32	30	45	43	38	49	50	35	33	29	26	34	38	40	40	38	42	52	47	43	47	47	40	41	38.7
McKinney	Maximum	69	66	59	64	55	60	52	64	76	88	80	86	73	72	68	54	55	60	63	67	65	75	77	82	68	60	75	69	75	80	80	68.9
	Minimum	43	29	40	38	40	30	32	22	24	33	45	40	46	52	42	33	31	24	22	26	33	40	41	45	43	44	46	46	43	37	40	37.1
Manfred	Maximum	57	53	52	57	52	54	58	60	77	82	78	68	74	68	65	50	50	55	60	59	53	64	69	75	73	66	61	72	73	72	78	64.0
	Minimum	40	36	43	41	30	24	25	26	29	41	45	39	47	52	55	34	32	27	29	35	41	44	33	42	51	49	46	47	40	50	36	33.2
Marmarth	Maximum	54	44	44	52	46	58	57	66	81	77	72	81	80	70	60	48	59	54	54	44	47	63	69	77	66	60	65	63	56	52	65	60.8
	Minimum	38	34	31	31	33	29	37	23	36	44	46	50	47	54	41	35	31	26	32	32	37	33	36	42	47	52	47	39	39	36	46	38.2
Minot §§	Maximum	69	62	52	67	53	59	57	65	77	90	82	71	82	82	56	56	60	68	72	70	68	71	78	82	85	90	51	78	80	79	85	70.9
	Minimum	32	25	35	36	25	28	22	21	27	32	39	32	42	46	42	31	26	20	23	24	33	37	33	40	44	41	43	42	41	35	36	33.5
Mott	Maximum	69	58	65	73	67	63	67	62	73	80	77	83	82	71	70	65	57	54	58	63	68	69	73	70	70	60	57	62	65	66	67	67.2
	Minimum	35	34	37	40	36	25	33	22	36	40	41	51	47	40	42	38	27	22	30	35	40	32	39	48	43	40	35	38	37	42	40	36.9
Napoleon §§	Maximum	53	42	44	56	47	55	60	58	75	87	78	79	78	70	53	50	55	53	58	49	48	63	70	70	69	65	60	60	63	73	75	64.8
	Minimum	32	37	31	34	38	23	25	26	28	40	44	45	45	47	48	33	26	20	23	26	36	38	33	35	39	42	45	40	42	36	33	35.2
New England	Maximum	61	56	45	55	53	58	58	66	80	77	73	82	80	69	63	50	57	56	62	52	53	64	72	71	65	60	63	62	60	63	67	63.0
	Minimum	44	32	32	32	31	26	28	21	38	44	51	51	47	53	42	35	37	24	31	39	37	40	35	40	48	46	47	38	40	44	46	38.7
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	55	41	48	54	45	52	57	60	76	84	78	71	75	68	57	48	45	44	58	51	49	65	69	70	67	62	55	60	62	65	71	60.1
	Minimum	41	34	36	37	28	29	32	25	41	51	48	47	44	50	37	34	29	22	26	38	37	42	38	37	51	46	43	40	41	37	46	38.3
Orange	Maximum	51	46	44	53	42	60	48	60	76	80	75	79	77	67	58	55	57	53	56	40	48	64	69	72	64	58	54	56	53	60	62	59.3
	Minimum	34	34	31	34	30	35	32	23	40	43	45	46	45	55	38	35	25	22	26	35	36	35	36	42	50	45	44	39	40	45	42	37.5
Oriska	Maximum	64	52	65	58	54	45	61	56	71	80	82	81	73	67	66	52	48	54	60	59	46	58	70	71	72	70	65	62	68	70	76	63.6
	Minimum	43	40	32	40	36	26	36	33	33	49	45	44	45	44	43	38	31	28	32	41	40	42	39	44	53	43	40	45	46	40	38	39.6
Park River	Maximum	66	60	56	63	55	39	57	58	69	79	76	67	70	71	66	51	47	57	62	63	58	64	68	76	72	69	66	68	76	78	80	61.7
	Minimum	41	30	37	42	33	32	34	34	33	42	60	45	47	49	37	46	44	27	34	37	42	42	38	42	47	41	38	46	49	36	42	40.2
Pembina §§	Maximum	62	58	64	74	39	42	48	51	76	79	81	71	81	77	54	52	52	66	72	71	72	71	74	76	76	71	72	72	76	88	82	67.7
	Minimum	36	39	36	38	34	32	36	32	32	44	44	42	46	48	47	38	32	29	31	44	45	42	42	48	44	42	44	45	48	41	48	40.4
Power	Maximum	60	64	62	68	51	50	57	73	85	70	80	86	75	73	67	53	55	60	55	51	56	76	73	75	70	71	63	70	76	80	76	67.5
	Minimum	41	40	34	33	42	32	33	35	32	45	51	47	50	51	40	35	31	27	34	45	42	44	46	42	56	45	42	49	47	42	39	41.0
Towner	Maximum	63	63	53	61	59	57	56	60	71	79	78	75	73	71	67	53	57	56	62	61	61	68	73	75	73	71	67	71	75	78	75	66.5
	Minimum	39	30	41	42	29	27	26	26	29	43	43	40	51	51	38	38	31	26	31	32	42	36	40	40	47	47	50	49	41	34	34	37.8
Turtle Lake	Maximum	71	58	48	58	53	55	55	59	76	80	74	72	75	72	62	55	55	55	60	60	55	73	73	75	76	63	57	62	70	75	76	64.8
	Minimum	86	40	39	36	27	30	28	27	40	42	45	44	48	52	42	48	30	25	30	38	38	42	48	46	44	45	42	40	38	48	46	40.1
University	Maximum	62	58	51	62	48	41	56	54	69	80	77	65	71	70	58	52	46	57	62	61	49	60	68	74	74	70	66	64	76	78	81	63.2
	Minimum	40	36	39	40	32	32	33	34	31	48	51	46	49	51	34	–	33	27	35	42	44	41	38	42	52	42	42	50	50	38	43	———
Wahpeton §§	Maximum	60	58	48	58	62	45	53	52	70	81	81	76	74	72	50	54	51	55	61	52	49	56	71	73	71	67	64	56	72	72	77	62.6
	Minimum	45	47	39	38	42	30	34	35	32	45	49	42	51	46	47	39	29	28	31	42	39	42	42	44	54	47	39	48	44	41	39	41.0
Washburn	Maximum	64	57	52	57	57	55	55	62	77	83	79	72	74	72	67	50	56	55	59	58	53	67	73	72	73	64	56	68	67	74	75	64.6
	Minimum	42	39	39	38	30	30	32	27	47	47	48	48	46	53	42	36	31	26	32	39	41	46	39	43	54	48	46	45	46	41	40	40.7
Westhope	Maximum	62	61	50	60	57	54	60	67	81	76	70	73	70	–	62	53	49	57	62	66	64	77	74	73	67	63	72	–	75	79	79	[b]66.0
	Minimum	40	30	40	29	30	27	22	33	45	40	40	49	53	–	40	33	30	28	30	36	38	42	42	46	49	48	47	–	44	41	40	[b]38.3
Williston	Maximum	54	52	51	60	52	63	52	68	80	79	73	68	77	67	54	52	56	54	59	60	61	70	72	75	69	58	63	66	67	67	71	63.5
	Minimum	43	34	36	40	31	38	33	22	40	48	50	48	54	53	40	36	29	30	35	34	37	48	40	48	54	49	51	45	43	50	44	41.4
Willow City	Maximum	60	60	49	52	56	53	53	58	66	69	61	64	64	63	48	49	54	58	55	55	59	58	66	64	61	59	58	60	67	60	75	59.2
	Minimum	40	29	40	38	28	23	24	24	21	29	27	47	43	35	35	31	24	28	30	38	33	35	45	40	34	16	45	46	16	33	35	31.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
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AUG 18 1915

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1915

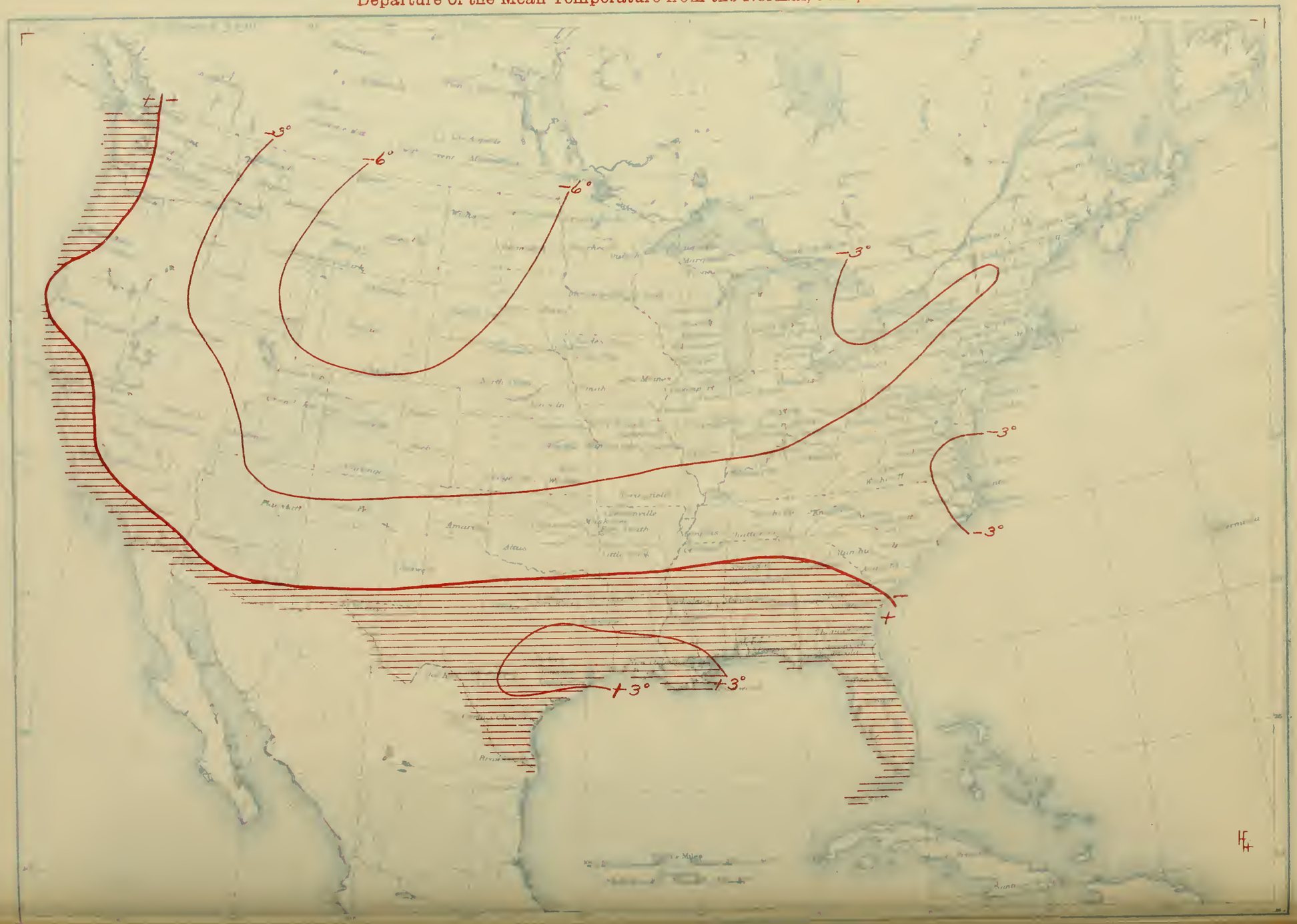
BY

ORRIS W. ROBERTS

SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JULY 26, 1915.

Departure of the Mean Temperature from the Normal, June, 1915.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., JUNE, 1915. No. 6.

GENERAL SUMMARY.

Unusually cool, cloudy and wet weather prevailed throughout the greater portion of the State. The mean temperature was the lowest of record for June since the Climatological Service was established in 1892, the nearest approach being in 1902, when a mean of 58.0° was recorded. All stations produced means below the normal. The night temperatures were especially low, light to killing frosts occurring in many parts of the State. Although the average precipitation was more than an inch lower than that of June, 1914, it was with but two other exceptions the highest of record. Thunderstorms were frequent, and the loss of several lives from lightning was reported. With the exception of the northern tier of counties, where the precipitation was deficient during the spring months, and in the Red River Valley, where the precipitation was excessive, crops of all kinds, except corn, were in excellent condition. Hay and pastures were in the best condition for many years.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.94 inches. The highest was 30.29 inches at Bismarck, Burleigh County, on the 28th; the lowest was 29.54 inches at Moorhead on the 12th.

TEMPERATURE.

The mean temperature for the State was 56.7°, or 6.4° below the normal, and 5.5° lower than the mean for June, 1914. The highest mean reported was 61.0° at Forman, Sargent County; the lowest was 51.8° at Willow City, Bottineau County. The highest temperature reported was 94° at Buford, Williams County, on the 2d; the lowest was 20° at McKinney, Renville County, on the 16th. Usually the highest temperature was recorded on the 25th, and the lowest on the 8th or 16th. The greatest daily range of temperature was 50° at Minot, Ward County, on the 13th. The greatest monthly range of temperature was 67° at Buford, Williams County; the least was 43° at Steele, Kidder County. The distribution of temperature was fairly uniform. The first decade was the warmest, and the second the coldest.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 71.6 per cent, the average at 7 a. m. being 82.6 per cent, and at 7 p. m. 60.6 per cent.

PRECIPITATION.

The average precipitation for the State was 5.00 inches, or 1.56 inches above the normal, and 1.26 inches less than the average for June, 1914. The greatest monthly amount reported was 10.56 inches at Aplin, Oliver County; the least was 1.01 inches at Buford, Williams County. The greatest amount recorded in any twenty-four consecutive hours was was 4.70 inches at Aplin, Oliver County, on the 25th and 26th. The only station to report any snowfall was Hansboro, where a trace occurred on the 8th. The average number of days with 0.01 inch or more of precipitation was twelve. While precipitation occurred in various parts of the State on each day of the month, there were five particularly stormy periods, the 4th-5th, 9th to 12th, inclusive, 15th-16th, 20th-21st, and the 25th to 27th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.8 miles. The greatest wind movement was 7,739 miles at Bismarck, an average of 10.7 miles per hour; the least was 6,023 miles at Moorhead, an average of 8.4 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 45 miles per hour at Moorhead on the 26th, considering only the records of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 9, partly cloudy 12, and cloudy 9.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	60.5	−2.6	94	28	3.55	−0.09	10	8	11	9	nw.
1893...	67.4	+4.3	103	33	3.38	−0.06	9	13	10	7	s.
1894...	68.8	+5.7	103	25	3.44	0.00	7	17	6	7	se.
1895...	59.7	−3.4	97	29	4.67	+1.23	12	8	13	9	nw.
1896...	65.6	+2.5	97	37	3.80	+0.36	9	16	9	5	s.
1897...	61.7	−1.4	109	20	3.75	+0.31	9	11	10	9	se.
1898...	62.6	−0.5	105	26	3.19	−0.25	9	10	10	10	nw.
1899...	62.2	−0.9	105	30	3.81	+0.37	10	12	11	7	w.
1900...	66.9	+3.8	109	27	1.39	−2.05	5	15	11	4	se.
1901...	61.6	−1.5	95	22	6.16	+2.72	15	10	11	9	nw.
1902...	58.0	−5.1	97	28	3.65	+0.21	11	12	9	9	nw.
1903...	62.4	−0.7	96	27	1.44	−2.00	4	17	8	5	se.
1904...	61.4	−1.7	100	30	5.77	+2.33	11	13	8	9	nw.
1905...	59.7	−3.4	97	32	4.52	+1.08	12	10	7	13	nw.
1906...	62.0	−1.1	95	32	4.06	+0.62	11	13	8	9	nw.
1907...	61.9	−1.2	95	25	2.85	−0.59	10	12	10	8	nw.
1908...	60.4	−2.7	93	27	3.37	−0.07	10	12	9	9	nw.
1909...	62.9	−0.2	98	28	2.21	−1.23	10	12	11	7	e.
1910...	67.3	+4.2	111	19	1.83	−1.61	6	16	9	5	se.
1911...	66.9	+3.8	108	25	3.12	−0.32	9	13	10	7	se.
1912...	61.8	−1.3	104	28	2.05	−1.39	6	16	8	6	nw.
1913...	65.8	+2.7	101	27	2.35	−1.09	8	16	9	5	se.
1914...	62.2	−0.9	93	29	6.26	+2.82	13	9	11	10	se.
1915...	56.7	−6.4	94	20	5.00	+1.56	12	9	12	9	nw.

Climatological Data for June, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	57.8	−6.4	82	†25	27	9	37	7.48	+3.65	2.47	0	10	17	2	11	s.	E. T. Carley
Aplin	Oliver	1,900	8	[c]55.7	.....	[c]82	25	[c]30	† 8	[c]38	10.56	.....	4.70	0	11	.....	.....	.....	w.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	[b]56.6	−6.0	[d]82	25	32	7	[d]35	5.13	−1.51	1.55	0	11	14	7	9	se.	R. C. Miles
Beach	Golden Valley	2,576	9	57.0	.....	87	25	26	8	38	4.50	.....	2.30	0	11	14	11	5	nw.	D. J. Steiner
Berthold Agency	McLean	2,082	21	57.5	−5.8	84	25	26	16	40	4.86	+0.74	1.98	0	14	11	12	7	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	58.2	−6.0	86	25	33	8	37	5.70	+2.16	2.36	0	12	9	12	9	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	55.1	−3.0	80	1	26	15	39	2.93	−0.48	0.88	0	17	7	10	13	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	54.8	.....	81	†24	22	16	44	2.40	.....	0.99	0	14	15	1	14	.....	G. H. Phelps
Bowman	Bowman	.....	1	56.7	.....	83	25	29	16	49	5.48	.....	2.60	0	9	7	0	23	.....	L. S. Diehl
Buford	Williams	1,944	36	60.4	−3.9	94	2	27	8	43	1.01	−1.80	0.31	0	8	7	18	5	nw.	P. Elmore
Cando	Towner	1,488	14	57.0	−3.9	83	3	28	15	43	3.07	−0.89	0.71	0	17	14	0	16	.....	E. T. Judd
Carson	Morton	.....	3	57.2	.....	84	25	32	† 8	41	8.46	.....	3.14	0	12	13	12	5	s.	D. L. Basquin
Colgate	Steele	1,177	1	57.6	.....	84	25	24	9	44	7.43	.....	2.97	0	12	14	7	9	sw.	H. P. Rice
Crosby	Divide	1,954	8	56.2	.....	82	24	24	16	32	2.48	.....	1.06	0	6	14	14	2	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	55.4	−7.2	79	3	33	7	34	4.53	+1.00	1.68	0	14	2	15	13	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	56.5	−5.1	85	25	28	8	40	5.50	+2.63	2.20	0	12	6	18	6	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	54.6	−6.9	78	1	26	16	36	4.82	+2.00	2.00	0	12	9	16	5	nw.	Geo. Michel
Dunseith	Rolette	1,682	19	54.5	−7.1	82	1	26	15	38	2.64	−0.38	0.84	0	13	7	8	15	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	55.7	.....	79	25	26	16	40	3.44	.....	1.37	0	10	9	11	10	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	14	58.0	−5.2	83	25	26	9	36	4.46	+1.12	2.00	0	11	1	12	17	se.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	7.46	.....	1.77	0	10	6	15	9	nw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	1.96	.....	0.38	0	8	10	9	11	e.	M. E. Uggen
Fessenden	Wells	1,610	3	55.2	.....	79	25	29	† 9	35	6.53	.....	0.99	0	16	8	11	11	nw.	G. T. Seymour
Forman	Sargent	1,249	23	61.0	−4.6	86	25	33	† 7	36	4.52	+1.15	1.93	0	16	7	13	10	nw.	A. Maltby
Fullerton	Dickey	1,439	17	58.2	−5.2	83	25	31	9	34	5.56	+2.43	2.64	0	13	9	11	10	s.	F. O. Alin
Garrison	McLean	1,901	20	56.0	−6.8	81	25	28	† 8	37	5.83	+2.48	2.03	0	10	4	20	6	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	57.0	.....	84	24	26	16	41	2.71	.....	1.30	0	6	7	10	13	nw.	C. H. Layman
Grafton	Walsh	827	23	55.8	−7.5	83	3	23	7	42	3.71	+0.36	1.00	0	14	13	9	8	se.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	60.0	.....	82	†25	29	9	44	4.45	.....	2.00	0	9	11	9	10	se.	G. H. Leick
Granville	McHenry	1,504	8	57.0	.....	80	† 1	30	16	35	4.29	.....	1.62	0	6	7	16	7	nw.	W. A. Christianson
Hannah	Cavalier	1,568	10	53.6	.....	78	† 1	25	† 7	40	4.09	.....	0.74	0	14	12	4	14	nw.	J. Moffatt
Hansboro	Towner	1,597	7	53.4	.....	80	† 1	29	9	40	4.30	.....	1.00	T.	14	6	16	8	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	56.1	.....	85	25	30	16	41	5.47	.....	2.82	0	15	7	7	16	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	58.8	.....	82	3	30	9	34	8.75	.....	3.15	0	16	11	13	6	nw.	F. E. Mayall
Howard	Williams	2,275	6	54.9	.....	85	24	22	16	43	1.81	.....	0.55	0	7	2	16	12	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	59.2	−4.4	89	26	31	7	41	4.45	+0.69	0.87	0	18	12	7	11	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	54.0	−8.1	80	3	24	7	43	3.87	+0.42	1.15	0	11	8	14	8	se.	C. R. Pettes
Lamoine	Kidder	1,936	7	54.7	.....	81	25	28	15	39	5.14	.....	1.76	0	9	10	10	10	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	54.2	.....	78	1	27	7	39	2.78	.....	0.39	0	15	12	5	13	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	56.6	−6.0	80	† 2	32	9	36	5.76	+2.31	2.30	0	10	13	8	9	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	59.0	−4.2	84	25	26	9	39	6.91	+2.91	2.15	0	12	15	6	9	nw.	W. S. Adams
McHenry	Foster	1,509	5	56.3	.....	83	25	29	7	41	4.27	.....	1.25	0	9	14	12	4	s.	P. E. Truden
McKinney	Renville	1,640	21	55.7	−5.2	81	1	20	16	41	3.23	−0.23	0.75	0	7	2	22	6	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	60.6	.....	86	26	34	† 6	34	5.45	.....	2.75	0	14	5	14	11	nw.	E. W. Griggs
Maddock	Benson	.....	.....	56.6	.....	81	† 2	29	7	39	5.35	.....	1.53	0	16	10	20	0	nw.	W. M. Jackson
Mandan	Morton	1,644	1	58.6	.....	85	25	32	8	38	6.32	.....	2.21	0	10	.....	.....	.....	.....	No. Dt. Plains Field Sta.
Manfred	Wells	1,605	12	56.0	−6.6	78	† 1	30	15	38	5.31	+1.88	1.20	0	16	6	19	5	nw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	6.21	.....	2.62	0	8	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Billings	.....	6	55.5	.....	85	25	30	16	36	7.82	.....	3.55	0	14	7	11	12	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	[d]55.2	.....	82	25	[c]24	7	[d]44	3.52	.....	1.05	0	13	6	15	9	nw.	H. H. McCumber
Mayville	Traill	975	19	58.8	−6.5	82	† 1	26	9	38	9.95	+6.94	2.96	0	14	12	6	12	nw.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	5.06	.....	2.55	0	11	7	14	9	nw.	Hj. Edman
Minot	Ward	1,557	19	56.7	−6.6	89	2	24	16	50	4.31	+1.07	1.70	0	14	7	16	7	nw.	W. I. Faris
Minto	Walsh	820	22	58.0	−5.9	84	27	27	7	38	4.26	+0.92	1.60	0	14	12	10	8	s.	S. S. Marsh
Mott	Hettinger	2,424	8	57.6	.....	81	25	31	8	35	5.83	.....	3.33	0	9	7	14	9	w.	O. H. Opland
Napoleon	Logan	1,955	23	56.0	−9.4	86	25	29	15	40	3.82	+0.04	1.00	0	14	5	11	14	nw.	C. J. Hoof
New England	Hettinger	2,400	21	55.8	−6.6	89	25	29	16	47	4.34	+1.83	2.48	0	11	13	7	10	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	55.0	.....	80	25	30	† 4	36	8.13	.....	2.02	0	9	12	6	12	se.	H. H. Maxwell
New Salem	Morton	2,163	10	56.6	−7.6	85	25	29	8	37	7.46	+3.49	2.90	0	11	9	14	7	nw.	J. Christiansen
Orange	Adams	2,586	6	56.0	.....	83	24	31	16	40	5.35	.....	1.59	0	9	8	16	6	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	58.7	−5.2	82	29	30	7	40	5.49	+2.43	2.00	0	13	5	19	6	nw.	J. J. Taylor
Park River	Walsh	998	11	57.2	−7.0	80	† 3	27	7	39	3.40	−0.14	1.11	0	13	14	8	8	s.	F. A. McCray
Pembina	Pembina	789	41	58.8	−3.9	91	27	32	7	46	3.88	+0.23	1.10	0	10	12	7	11	nw.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.64	.....	1.04	0	8	13	7	10	se.	J. A. Johnson
Power††	Richland	1,020	23	60.0	−4.3	85	3	32	9	35	8.59	+5.11	3.70	0	12	7	13	10	se.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	3.21	.....	1.00	0	10	9	17	4	nw.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	4.60	.....	2.32	0	8	9	10	11	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	2.77	.....	0.70	0	10	11	9	10	.....	C. A. Wales
Steele	Kidder	1,857	18	55.9	−6.8	75	†23	32	15	23	5.98	+2.65	1.75	0	16	7	19	4	nw.	H. S. Wood
Towner	McHenry	1,482	13	56.9	−5.7	80	1	29	† 8	38	2.01	−0.86	0.45	0	10	1	18	11	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	[a]56.6	.....	[a]87	27	[a]29	8	37	8.50	.....	2.80	0	11	9	18	3	nw.	E. J. Jones
University	Grand Forks	830	23	57.3	−6.1	82	† 3	31	1	33	7.34	+3.81	2.65	0	13	11	11	8	se.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.04	.....	1.30	0	15	8	17	5	nw.	C. R. Lyman
Wahpeton	Richland	962	21	57.8	−7.8	85	26	32	9	39	5.80	+1.89	1.83	0	17	11	8	11	nw.	F. E. Smith
Walhalla	Pembina	966	8	[f]56.9	.....	[f]84	1	[e]28	8	[f]39	3.10	.....	0.51	0	17	10	4	16	nw.	I. DeL. Lee
Washburn	McLean	1,734	17	[c]58.4	−5.7	[c]90	27	[c]30	8	[c]38	6.96	+3.83	2.25	0	10	.....	.....	.....	nw.	A. Wacker
Westhope	Bottineau	1,508	9	56.2	.....	80	1	27	† 8	41	3.75	.....	1.31	0	12	11	13	6	nw.	C. M. Condit
Williston	Williams	1,875	36	57.6	−5.9	85	24	30	16	37	1.64	−1.93	0.71	0	10	8	13	9	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	51.8	−10.0	74	30	24	11	39	2.13	−1.40	0.46	0	10	3	23	4	nw.	M. A. Ostby
Zap	Mercer	1,800	2	57.0	.....	82	25	27	16	44	7.41	.....	2.82	0	10	10	10	10	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	59.2	−5.0	82	26	32	9	31	9.13	+5.00	2.94	0	21	12	12	6	se.	U. S. Weather Bureau
Averages		.....	.....	56.7	−64.	94	2	20	16	50	5.00	+1.56	4.70	0	12	9	12	9	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for June, 1915.

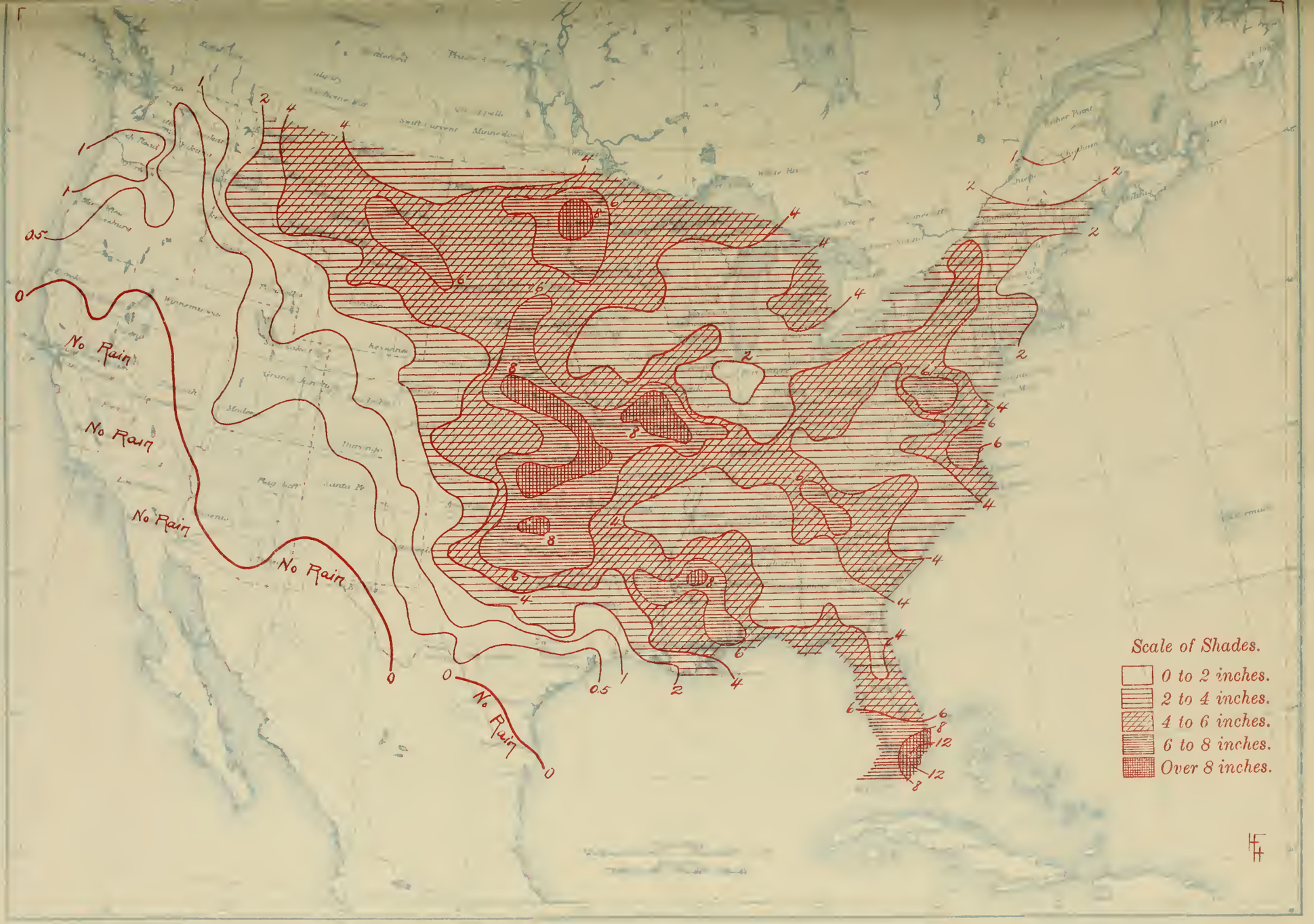
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red					.16	T.		.07		.20		1.52	1.27		T.	.01	T.	T.	T.		.16	T.	T.	T.		.34	2.47	1.28				7.48
Aplin	Knife	.15	.32	1.52	.01	T.	T.	.55		.21			2.46			T.				T.	.63				.01	1.98	2.72						10.56
Ashley	Missouri		.30	.41					.20		.31	1.55	.27	.10	.15		.06				.68						1.10						5.13
Beach	Lit. Missouri	.75	.05	.30	.25		T.		.10			2.30		.05	.10		.05				.50	T.					.05	T.			T.		4.50
Berthold Agency	Missouri	.15	.27	1.12		T.	.02		.12	.04		1.98			.07		.02				.32				.03	.10	.58				.04		4.86
Bismarck ***	Missouri	.10	.55	1.18		T.	.05		.04		.15	2.25			.51	.01	.04				.35			T.			.47						5.70
Bottineau ‖ ‖	Mouse			.01	.13	.01		.11		.29	T.				.01	.05	.01	.06	.02		.27	.45	.05	.88		.09	.01	.48	T.				2.93
Bowbells ‖ ‖	Mouse		.02	.17	.99			.08		.15	.04						.10		.10		.28	.06		.11		.03	.24	.03					2.40
Bowman	Grand		.70		.21					.12		.25	2.60						.31		.60						.43				.26		5.48
Buford	Missouri	T.	.16		.13	.01	T.			.31	T.			.05	.09						.21									.05		1.01
Caudo	Sheyenne				.13	.02	.71	.17		.27	.02		.46	.06				.02	.01		.41	.02		.27	.01	.07	.27	.15					3.07
Carson	Heart		.38	1.62	1.24		T.	.16		.07	.16	.30	3.14			.03					.54	T.		.15			.67						8.46
Colgate	Sheyenne				.08	T.				.11	T.		1.35	.31	.03		.13	.21	T.	.20		.12					2.97	1.78			T.		7.43
Crosby	Mouse	T.	T.		1.06	T.		T.		.11	.12				T.	T.		.26	T.		.21		T.	T.			.72						2.48
Devils Lake ***	Sheyenne				.42	.04	T.	.13		.22		.98	.71			.14	.02	.22	.16		.94	.01		.21	T.		.33						4.53
Dickinson	Heart		.41	.19	.42	.16	T.	.09		.09	.03		2.20		T.	.10	T.	T.	T.		.33	.01		T.			1.47				T.		5.50
Donnybrook	Mouse			.13	2.00			.03		.30	.71					T.		.07	.06		.37		.25	.28	.01		.61						4.82
Dunseith	Mouse				.21	T.	T.	.16		.42					.02	.04	.04	.01	T.		.83	.10		.28	.09		.42	.02					2.64
Eckman	Mouse				.54	.04		.03		.07	.02				T.	T.	T.		.02		.27		T.	.20	1.37		.88						3.44
Edgeley	James				.20	.04				.36	.05		2.00	.78	.07			.19	T.		.18	.21					.38						4.46
Energy	Missouri	.20	.16	1.62		.04				.20			1.77			.08		T.			.55					1.15	1.69						7.46
Epping	Missouri	.23	.31	.26	.08					.28								.20			.18			.38							.04		1.96
Fessenden ‖ ‖	James			T.	.86	.04		.10			.16		.74	.63	T.		.26	.07	.14	T.	.15	.84	.12	.02	T.	.57	.99	.84					6.53
Forman	Sheyenne				.24	.25			.29	.15	.15		1.93	.19	.07		.10	.01			.27	.13					.02	.60	.10		.02		4.52
Fullerton	James			T.	.35	T.			.30	.82		.42	2.04	.28		.28		.06	T.		.28	.10					.31	.26			.06		5.56
Garrison	Missouri		.23	.17	2.03	T.						T.	1.53			.07		.13			.33	.13	T.	T.	T.	.21	1.00						5.83
Goodall	Missouri		.10	.16	1.30					.10											.70						.35						2.71
Grafton ‖ ‖	Red					.12			.22		.15	.09	.55	.23		.08	.03		.26			.66		.02	.07	.23		1.00					3.71
Grand Rapids	James					.50				.20	T.	T.	2.00	.60		.10		.05	T.		.50	T.					.40	.10			T.		4.45
Granville	Mouse			T.	.72	T.		T.		T.	T.		.12						T.		.83	T.	T.	.10	.90		1.62						4.29
Haunah	Pembina				.19	.34	T.	.30			.51	.15	.11		T.	.22		.19			.62				.11	.48		.74	.13					4.09
Hansboro	Red				1.00	.20	.10	.20		.40						.20		.10	.12		.80	.12		.27	.11		.60		.08				4.30
Hettinger	Grand		.51		.41	.01	.01	.03	.02	.05	T.	.78	2.82			T.		T.	.01	T.	.42		.18	.02							.14	.06	5.47
Hillsboro	Red				.19	.02			T.	.11	.03		1.72	.85	.36	.02	.30	.17	.02		.26	.18		T.			3.15	1.30	.07		T.		8.75
Howard	Missouri	T.	.03	.49	.33	.02		T.		.02	T.	T.		T.	T.	T.		.37	T.		T.		T.		T.		.55	T.	T.				1.81
Jamestown ‖ ‖	James					.15					.37	.05	.54	.87		.03	.53	.12	.13	.02	.03	.42	.10	.03		.23	.02	.03	.78				4.45
Lakota	Sheyenne			T.	.38	T.		T.	.30	.05	T.	T.	1.15	T.	T.	.10		.19	.12		.55	.07				T.	.88	.08			T.		3.87
Lamoine	Missouri		T.	1.64	.22		T.		.05	T.			1.76	.05		.20					.45	T.	T.			.41	.36						5.14
Langdon ‖	Pembina					.39	.04		.21	.02	.20		.12	.14			.23		.13	T.		.28		.21	.10	.39		.30	.02				2.78
Larimore ‖	Red					.32	.02		.17		T.	.09	T.	1.35			.41		.48	.13	T.	.49						2.30					5.76
Lisbon ‖	Sheyenne				T.	.15	T.		.31		.52		2.15	.68		T.	.56	.03				.30	.04	.32				.85	1.00				6.91
McHenry	James				.36	T.		.15					1.00			.19		.30			1.25	T.			.06	.08	.88						4.27
McKinney	Mouse			T.	.75	T.				.30		T.								.15		.53	T.		.20	.55		.75						3.23
McLeod	Sheyenne				.01	.24			.15	.10	.10		2.75	.24	.20						.60	.05	.01				.15		.70		.15		5.45
Maddock	Sheyenne				.59	.02		.10	.05	.23			.88	.21		.19		.26	.04		.89	.10		.10		.14	1.53	.02					5.35
Mandan	Missouri			.46	2.21	.31		T.	.06		.07		.80	1.40			.14				.32	T.		T.			.55	T.					6.32
Manfred	Sheyenne			T.	.80	.02		.15		.10			1.20		T.	.12	.02	.51	.02		.68	.09	T.	.04	.26	.50	.77	.03					5.31
Manning	Knife	.57	1.09			.12				.57		2.62	.63							.35						.26						6.21
Marmarth	Lit. Missouri	.76	.58		.40	.05		.13		.01	.37	.37	3.55			T.		T.	.03	T.	.44			.15			.85	T.			.13		7.82
Marstonmoor	James			T.	.52	T.			.09	T.	.04		1.05	.30	.02	.65	T.	.10	T.	.10	.05	T.	T.	T.		.35	.63	.02					3.92
Mayville	Red					.22	T.		T.			.10	1.88	1.00	.02	T.	.30	.27			.17	.90				.04	2.00	2.96	.08		.01		9.95
Melville	James																																
Milnor	Red				T.	.25			.17	.15		T.	2.55	.27	T.	.07		T.			.44	.17		.26			T.	.20	.53		T.		5.06
Minot ‖	Mouse				.30	1.04			.02		.03	.19	.06				.04		.03		.11	.10	.06	.11		.08	1.70	.44					4.31
Minto	Red				.10	.19			.37		.15		1.05		.05	.02		.28			.19	.16		.05		.05	1.34	.26					4.26
Mott	Cannon Ball	.35	.10	.53	T.			.16		.08		.11	3.33								.55						.62				T.		5.83
Napoleon ‖	Missouri		.18	.19	.61	.10		.05		.17			1.00	.61		.03	.27		.13		.10	.17						.21					3.82
New England	Cannon Ball	.50		.34	.07		.08		.03				2.48			.04					.53			.04			.20			.03			4.34
New Rockford	James								.02	T.	.03	2.00				T.		1.50	.30		2.02	.01					1.80	.05			T.		8.13
New Salem	Heart	.12	.44	2.29	.02	T.	.05		.20				2.90			.07					.65	.01		T.			.71						7.46
Orange	Cannon Ball	.27	.08	.58	.02	T.	T.				.63	1.55								T.	.44		1.59								.19		5.35
Oriska	Sheyenne				.27					.19		T.	2.00	.90	.01	.21			T.		.33	.11	.43	.01		T.	.45		.52	.04			5.47
Park River	Red				.11	T.				T.	.38	T.	1.11	.01	.11	T.	T.	.18	.02		.14	.47		.07		.05	.66	.09					3.40
Pembina ‖	Red					T.	.20		1.10		.36	.24	.10				.22		.24		.20	.12			T.	T.	T.	1.10	T.				3.88
Plaza	Missouri			.20	1.04								.65			.11		.23			.26					.62	.53						3.64
Power	Sheyenne				.05	.15			.20	.10	.11		2.70		.10						.48	.41	.49				.10	3.70					8.59
Powers Lake	Missouri		T.	.46	1.00	.15				.25	T.				.05		.05	.15	.10	T.	.30			.50		.20					T.		3.21
Ranger	Lit. Missouri	.58	T.		.83	.09		.01		.18	T.	T.	2.32		T.	T.				T.	.56			.03							T.		4.60
St. John	Mouse				.19	.04		.18		.24								.14			.70			.31	.20		.60						2.77
Steele	Missouri			.08	.57	.50	T.	.10	T.	.11			1.75	.08	T.	.45		.10	T.		.43	.02	.08	.12		.13	.95	.51			T.		5.98
Towner	Mouse				.26	T.		.10		.12		.20				T.			.08		.20	T.	.05	.31	.24		.45						2.01
Turtle Lake	Missouri	.20	.25	1.30		T.	T.		.15	.15	T.	1.95				.05		.50	T.		.80				.35	T.	2.80						8.50
University	Red				1.25	T.	T.	.20		.01			1.12	.10	.14	.96		.28			.34			.07			2.65	.09			.13		7.34
Van Hook	Missouri	.02	.07	.08	1.30	T.				.02	.01		.12		.04	.06		.04	T.		.52	.01				.12	.60	T.			.03		3.04
Wahpeton ‖	Red					.83	.19		.35		.11		1.83	.44		.07	.12	.02	.04		.02	.48		.03	.11			.41	.71	.04			5.80
Walhalla	Pembina				.30				.51		.24	.03	.29		.16	.06	.23	.17	.04		.13	T.		.07	.04	.10	.42	.15	.16				3.10
Washburn	Missouri		.10	.30	2.25						.14		2.03						.22		.30	.08				.39	1.05						6.96
Westhope	Mouse				.28	T.		.10		.09	.04				.04	.03			.05		.54	.07		.24	.96		1.31						3.75
Williston ***	Missouri	T.	.11	.60	.36	T.				.26	T.			T.	.01	T.		.04		.09	.12				T.		.03			.02			1.64
Willow City	Mouse				.23	.08		.10		.17		T.			T.		.03		.05		.46	T.		.46	.14		.41	T.					2.13
Zap	Knife	.30	.30	1.15	.01		T.		.33	.04		2.06				.03			T.		.37				T.		2.82						7.41
Moorhead, Minn ***	Red				.04	.11		.02	.05	.24	.46	.90	2.08	.15	.28	.72		.06	.01		.28	.02	.03	.10		.14	2.86	.34			.24		9.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	77	79	80	76	75	52	68	56	63	69	68	60	71	76	66	60	58	60	69	65	75	76	75	75	82	82	82	75	61	66	..	69.9
	Minimum	43	46	46	57	52	44	31	38	27	44	36	52	44	48	34	38	38	43	46	42	46	44	54	45	51	59	60	55	50	55	..	45.6
Aplin	Maximum	78	63	63	66	64	54	66	64	63	67	65	57	68	64	70	60	80	—	80	72	—	78	75	78	82	75	76	67	78	—	..	[c]66.5
	Minimum	48	53	53	53	50	38	33	30	40	47	40	45	38	45	32	30	43	..	45	50	—	40	54	53	56	55	50	47	44	—	..	[c]44.9
Ashley	Maximum	73	70	68	74	66	67	65	56	57	68	62	62	68	72	69	58	59	67	62	72	71	75	78	75	82	76	—	—	—	—	..	[c]68.2
	Minimum	45	45	53	54	38	46	32	35	34	43	39	46	41	44	34	35	41	40	49	49	48	44	51	47	56	61	54	52	42	56	..	45.1
Beach	Maximum	77	65	68	67	67	58	60	64	72	72	65	60	63	67	70	65	70	77	65	69	72	76	79	82	87	75	74	70	73	75	..	70.1
	Minimum	47	53	52	54	48	40	33	26	45	45	46	36	40	44	40	29	44	48	43	48	46	41	44	50	58	50	44	45	38	42	..	44.0
Berthold Agency	Maximum	80	65	65	62	65	55	69	65	67	68	69	59	70	66	70	62	79	64	68	72	73	80	81	81	84	70	77	69	74	76	..	70.2
	Minimum	47	53	54	54	51	39	34	27	42	45	36	46	40	42	31	26	42	46	41	52	51	40	51	52	59	59	45	50	40	48	..	44.8
Bismarck	Maximum	77	70	62	72	65	50	66	59	63	70	65	51	70	68	72	57	75	57	66	74	72	78	78	78	86	74	83	68	80	76	..	69.4
	Minimum	50	51	55	56	49	40	36	33	40	45	42	44	41	40	34	35	46	50	48	52	51	45	55	52	60	57	52	49	43	57	..	46.9
Bottineau §§	Maximum	80	65	77	65	61	57	65	60	51	65	62	61	76	62	58	60	57	59	68	67	70	76	74	73	77	77	74	66	76	74	..	67.1
	Minimum	47	52	55	55	52	31	34	30	34	40	43	48	37	45	26	28	37	42	33	47	46	40	52	47	53	58	47	46	38	49	..	43.1
Bowbells §§	Maximum	77	74	60	60	60	58	60	60	60	68	63	71	70	58	59	61	67	57	61	71	72	75	73	81	74	75	76	68	81	78	..	67.6
	Minimum	45	49	49	51	50	31	37	26	33	41	36	44	47	45	31	22	38	41	32	46	46	41	46	49	50	56	46	44	37	47	..	41.9
Carson	Maximum	74	65	64	68	64	54	66	60	66	67	60	52	66	66	73	68	78	70	63	72	70	76	75	78	84	74	78	68	78	75	..	69.1
	Minimum	48	53	54	55	50	40	33	32	40	48	41	45	38	45	32	32	44	48	48	53	48	38	52	46	60	55	46	48	38	56	..	45.3
Crosby	Maximum	77	72	70	64	56	60	60	60	60	60	67	62	64	72	66	59	62	68	56	65	72	72	79	76	82	77	75	74	67	78	77	68.3
	Minimum	50	50	52	53	49	34	36	29	45	40	40	46	44	44	33	24	34	42	37	52	47	44	49	50	54	56	46	47	42	51	..	44.0
Devils Lake	Maximum	77	76	79	69	63	47	67	53	55	59	70	54	71	68	59	57	54	55	65	57	68	72	70	72	78	68	77	64	74	75	..	65.8
	Minimum	45	50	49	55	45	36	33	34	36	45	38	48	42	41	37	34	41	45	37	47	51	41	50	45	58	59	57	51	47	55	..	45.1
Dickinson	Maximum	76	67	65	66	62	53	65	60	71	68	65	51	67	62	72	62	76	61	64	70	69	80	77	80	85	74	75	68	80	78	..	69.0
	Minimum	45	51	52	54	50	39	34	28	41	47	37	44	38	43	32	30	43	43	41	52	44	40	50	48	57	56	46	45	40	50	..	44.0
Donnybrook	Maximum	78	74	63	60	58	55	60	57	55	62	61	57	70	64	60	57	68	53	63	69	70	73	72	76	75	74	74	70	73	77	..	65.9
	Minimum	46	47	50	53	50	39	38	27	38	44	38	42	37	47	31	26	44	41	32	49	47	41	48	47	52	57	48	47	49	41	..	43.2
Dunseith	Maximum	82	75	77	65	63	50	62	56	50	60	84	57	73	63	57	57	52	55	65	63	68	72	68	69	74	73	73	67	74	72	..	65.9
	Minimum	45	50	56	54	48	33	34	31	34	45	42	46	37	46	26	31	40	42	34	46	47	40	52	48	52	57	46	46	36	49	..	43.1
Edgeley	Maximum	77	77	75	74	74	66	68	66	59	69	67	58	70	73	66	64	57	60	64	62	72	72	79	75	83	82	80	69	75	77	..	70.4
	Minimum	43	42	54	57	53	42	32	36	26	45	40	47	43	44	33	36	40	47	39	39	47	46	53	49	57	57	56	54	44	53	..	45.5
Fessenden §§	Maximum	78	75	70	69	60	53	68	58	55	65	72	53	71	68	63	57	64	54	65	65	70	76	75	75	79	71	77	62	76	76	..	67.3
	Minimum	44	44	46	54	48	35	30	31	29	41	39	50	40	47	29	34	37	41	35	45	49	46	49	44	53	57	54	50	41	51	..	43.1
Forman	Maximum	77	77	76	81	78	68	69	65	63	70	69	64	72	76	71	68	58	59	67	66	73	79	81	73	86	84	84	80	78	79	..	73.0
	Minimum	50	48	51	59	55	45	33	39	33	50	52	50	45	46	36	41	41	52	49	48	52	47	57	49	50	64	60	58	45	55	..	48.9
Fullerton	Maximum	75	74	75	75	72	66	58	56	60	67	69	54	69	75	67	58	57	60	63	66	72	73	74	79	83	82	80	69	78	76	..	69.4
	Minimum	47	48	54	57	52	45	34	39	31	46	41	47	43	44	37	38	40	48	49	46	52	52	49	53	53	61	56	51	44	55	..	47.1
Garrison	Maximum	77	69	67	65	62	55	66	59	61	64	69	59	69	61	55	61	76	62	64	72	70	76	75	78	81	75	77	66	69	78	..	67.9
	Minimum	45	48	52	53	50	36	35	28	37	43	43	46	38	44	32	28	41	45	38	50	47	43	50	48	58	55	50	49	48	41	..	44.0
Grafton §§	Maximum	80	81	83	73	69	52	65	55	60	58	69	56	72	75	63	60	53	60	69	63	71	71	72	73	78	71	81	74	75	76	..	68.6
	Minimum	42	45	47	53	52	37	23	32	26	42	38	48	43	49	32	35	37	41	39	42	46	43	50	38	50	58	56	54	45	48	..	43.6
Granville	Maximum	80	76	70	72	60	60	66	60	57	62	69	72	72	67	66	62	70	56	65	70	70	72	75	75	77	75	74	70	80	74	..	69.1
	Minimum	45	50	48	50	44	42	34	32	37	39	41	47	42	38	34	30	44	44	35	50	60	42	49	47	52	55	50	48	65	54	..	44.9
Hannah	Maximum	78	77	78	75	74	47	48	65	64	69	64	65	71	65	61	57	45	57	65	57	63	70	65	70	72	71	77	70	71	68	..	70 2
	Minimum	38	40	43	46	43	33	25	33	25	39	35	34	33	40	27	30	32	39	30	36	38	40	47	35	40	44	45	46	39	43	..	37.1
Hansboro	Maximum	80	79	80	75	65	50	64	55	54	60	64	57	72	65	60	58	53	56	68	62	69	71	66	71	73	76	75	66	71	76	..	66.4
	Minimum	40	44	40	52	45	33	32	32	29	45	39	45	40	32	33	30	37	40	32	40	46	40	48	40	47	50	53	45	42	42	..	40.4
Hettinger	Maximum	73	59	62	66	62	50	64	60	68	69	51	50	65	64	75	62	78	66	58	70	76	76	76	77	85	72	77	69	79	76	..	67.8
	Minimum	48	53	52	50	41	40	34	35	43	44	42	43	38	44	34	30	44	51	48	55	42	40	49	50	56	56	45	44	45	39	52	44.4
Howard	Maximum	77	68	66	63	56	65	60	68	64	68	60	61	78	65	62	62	73	53	66	70	73	77	74	85	81	72	68	66	79	77	..	68.6
	Minimum	43	53	52	53	45	34	40	25	43	40	32	45	35	40	32	22	40	40	30	38	42	40	42	49	56	52	42	44	41	47	..	41.2
Jamestown §§	Maximum	82	79	82	77	72	52	72	59	60	68	74	57	76	77	71	60	60	58	64	68	75	80	89	82	87	89	85	71	80	82	..	72.6
	Minimum	45	48	53	50	52	41	31	36	30	38	40	47	43	50	36	37	38	44	48	45	49	47	54	49	55	62	56	54	45	53	..	45.9
Lakota	Maximum	76	76	80	69	67	54	67	52	54	66	69	57	63	69	60	57	52	56	67	60	69	69	71	71	77	71	69	69	73	76	..	66.2
	Minimum	40	40	42	52	50	36	24	35	29	42	33	48	41	40	29	35	40	37	35	41	45	40	52	39	51	59	48	52	40	58	..	41.8
Lamoine	Maximum	72	72	64	64	70	52	64	56	58	54	60	56	69	68	67	55	71	54	64	64	68	77	72	77	81	71	78	65	74	75	..	66.7
	Minimum	44	47	52	50	52	34	30	30	38	39	39	44	37	43	28	33	41	41	40	47	46	41	49	44	55	54	50	45	38	50	..	42.7
Langdon	Maximum	78	77	78	68	67	47	66	52	53	57	64	56	70	70	61	56	51	55	65	61	67	71	66	73	74	67	76	69	74	71	..	65.3
	Minimum	45	50	51	54	51	36	27	33	32	40	40	46	39	46	30	33	38	41	36	45	46	46	49	40	50	55	55	52	41	50	..	43.2
Larimore §§	Maximum	78	80	78	72	69	53	66	53	59	61	67	67	68	74	65	56	52	56	65	56	71	69	73	70	78	77	80	71	68	77	..	67.6
	Minimum	48	50	50	57	53	38	30	35	32	48	38	52	43	48	35	35	40	47	40	43	46	45	50	44	52	60	59	55	48	50	..	45.7
Lisbon §§	Maximum	78	78	76	74	73	58	70	56	62	70	66	70	72	75	65	58	55	60	60	64	73	76	78	81	84	83	80	72	76	78	..	70.7
	Minimum	45	45	45	60	53	47	31	39	26	45	37	49	43	48	54	40	39	44	48	38	50	55	53	52	60	57	58	55	45	55	..	47.2
McHenry	Maximum	80	80	79	73	63	55	70	53	53	62	74	58	72	71	63	60	60	55	66	63	68	76	72	74	83	70	76	68	71	75	..	68.1
	Minimum	47	50	53	54	50	39	29	35	32	48	39	48	41	41	30	35	39	48	40	47	49	42	52	44	56	58	54	40	43	51	..	44.5
McKinney	Maximum	81	75	68	67	63	70	65	65	55	62	65	66	75	60	60	61	70	60	68	70	72	76	76	80	72	77	76	76	76	80	..	69.6
	Minimum	49	46	47	53	45	35	40	35	35	35	30	46	37	46	34	20	45	43	28	35	48	44	46	46	49	50	50	42	42	42	..	41.8
Manfred	Maximum	78	76	70	70	62	50	67	57	55	64	72	65	72	66	65	64	66	61	66	69	67	75	73	76	78	71	76	62	76	72	..	68.0
	Minimum	42	38	47	55	50	35	31	34	32	35	41	47	41	48	30	35	40	48	38	48	51	43	52	52	57	57	52	51	40	51	..	44.0
Marmarth	Maximum	72	58	68	62	63	55	62	62	70	66	56	50	60	61	72	64	76	64	60	68	71	76	76	80	85	74	72	69	77	74	..	67.4
	Minimum	43	49	44	52	46	35	32	31	44	48	47	40	38	41	36	30	44	48	46	46	42	42	42	49	55	54	50	43	43	43	..	43.6
Minot §§	Maximum	87	89	70	64	65	63	74	67	65	69	74	60	83	67	70	67	77	55	72	80	76	80	76	83	87	79	80	70	81	79	..	73.6
	Minimum	44	42	46	48	48	31	31	25	32	41	35	45	33	44	26	24	33	39	27	40	45	39	49	43	51	56	45	45	38	48	..	39.8
Mott	Maximum	75	72	68	68	62	56	68	65	66	73	72	65	66	59	66	72	80	73	68	73	70	78	76	79	81	78	80	77	80	76	..	71.4
	Minimum	44	45	43	41	41	42	32	31	40	45	47	39	36	43	40	43	48	45	47	50	46	40	45	47	56	57	47	52	42	41	..	43.8
Napoleon §§	Maximum	73	73	65	73	65	49	66	58	60	69	63	54	70	72	69	58	70	60	66	73	72	79	77	78	86	77	82	70	82	78	..	69.6
	Minimum	40	46	48	53	50	35	32	33	31	37	39	44	35	45	29	34	34	40	35	47	48	42	48	45	47	61	50	46	49	46	..	42.3
New England	Maximum	75	67	66	67	62	59	65	65	69	67	67	53	67	65	72	65	77	73	70	69	70	80	79	84	89	82	78	78	84	83	..	71.6
	Minimum	43	53	54	54	51	39	35	31	41	47	43	44	35	47	33	29	43	46	45	52	46	42	42	42	50	40	35	41	52	..	..	43.1
New Rockford	Maximum	63	62	60	56	50	57	70	72	76	69	71	66	75	71	61	66	63	60	70	66	75	72	75	75	80	70	78	76	74	79	..	68.6
	Minimum	39	41	34	30	33	36	42	47	40	40	37	40	42	42	30	30	31	40	42	45	50	58	60	55	48	52	39	42	48	..	..	41.4
New Salem	Maximum	75	63	66	72	65	54	67	57	63	65	64	55	57	66	73	57	78	72	67	70	72	77	73	78	85	73	80	70	78	77	..	69.0
	Minimum	44	50	53	58	45	37	35	29	34	45	42	42	38	45	36	32	41	46	46	47	50	43	51	48	54	51	50	48	42	42	..	44.1
Orange	Maximum	73	61	60	62	64	50	64	59	68	65	53	51	65	68	75	60	80	65	61	71	70	76	76	83	78	76	80	78	75	76	..	68.1
	Minimum	45	50	49	52	47	40	34	34	41	43	40	44	37	38	35	31	43	48	48	50	45	34	49	50	51	48	46	48	44	52	..	43.9
Oriska	Maximum	75	76	77	75	74	74	67	66	60	66	68	62	70	71	75	60	63	56	66	63	71	75	75	73	80	77	80	80	82	76	..	70.8
	Minimum	38	44	46	56	53	53	30	37	31	49	40	47	42	49	35	39	42	50	45	43	46	46	56	43	55	61	55	55	57	56	..	46.6
Park River	Maximum	78	79	80	78	71	62	66	60	59	59	66	63	71	73	64	58	58	58	66	65	70	69	70	73	78	74	79	80	74	75	..	69.2
	Minimum	46	41	47	52	56	40	27	34	32	47	39	51	45	52	45	36	37	47	38	41	49	44	50	39	51	57	56	57	47	53	..	45.2
Pembina §§	Maximum	81	84	83	82	68	48	51	51	54	64	72	74	79	71	72	64	54	69	72	69	76	78	81	78	88	86	91	71	84	82	..	72.6
	Minimum	49	51	51	51	46	34	32	34	36	46	46	48	46	48	36	38	42	42	41	46	48	48	51	48	42	52	49	52	42	51	..	44.9
Power	Maximum	77	78	85	70	74	75	67	62	67	71	69	69	75	70	65	60	59	60	65	62	68	76	77	72	73	82	80	75	73	78	..	71.1
	Minimum	50	50	52	53	57	55	34	40	32	52	41	53	46	52	37	40	38	42	53	58	42	41	55	54	56	63	60	53	49	56	..	48.8
Towner	Maximum	80	77	71	67	67	55	67	59	59	65	70	65	75	69	63	63	67	64	68	69	71	77	73	76	79	78	78	74	77	77	..	70.0
	Minimum	45	49	51	54	52	34	34	29	36	46	39	48	40	40	31	29	44	44	31	49	51	39	53	46	54	57	48	48	40	52	..	43.8
Turtle Lake	Maximum	79	74	65	67	67	53	68	57	61	67	68	58	69	69	71	57	75	62	66	—	70	72	75	78	81	73	87	69	76	75	..	[a]69.3
	Minimum	46	48	53	54	47	34	35	29	36	46	41	46	41	41	34	33	42	47	48	—	50	36	50	57	57	56	53	50	46	55	..	[a]43.8
University	Maximum	77	80	82	73	71	51	64	53	59	61	67	56	70	76	62	58	53	56	68	62	71	70	71	71	80	77	82	73	74	77	..	68.2
	Minimum	46	50	50	59	50	41	31	36	32	46	38	50	45	44	35	38	40	50	42	46	49	43	54	42	54	61	60	55	50	54	..	46.4
Wahpeton §§	Maximum	77	78	79	78	74	60	65	54	62	65	69	64	67	75	67	55	57	65	67	66	74	72	78	72	81	85	82	73	72	77	..	70.3
	Minimum	49	50	52	59	60	45	36	39	32	50	40	52	50	42	34	43	34	40	39	40	43	41	50	41	42	54	55	52	45	49	..	45.3
Washburn	Maximum	77	71	64	70	65	61	67	59	60	69	69	60	70	62	70	58	77	76	—	75	71	—	—	78	84	83	90	68	79	76	..	[a]70.7
	Minimum	50	50	55	55	51	38	35	30	40	48	43	47	42	49	34	35	44	48	—	45	51	—	—	46	56	53	52	50	46	55	..	[a]46.2
Westhope	Maximum	80	75	75	62	59	58	62	59	58	65	65	62	76	69	67	60	60	58	70	68	71	70	73	75	77	77	74	73	77	73	..	67.9
	Minimum	45	52	51	55	49	34	45	27	35	43	38	46	35	46	34	27	43	43	32	54	49	46	54	48	52	59	49	49	40	52	..	44.4
Williston	Maximum	77	65	68	64	58	60	60	62	63	67	61	61	71	56	66	63	78	55	66	70	72	80	76	85	83	76	76	68	80	76	..	68.8
	Minimum	52	54	55	55	45	38	35	30	46	45	43	47	46	40	37	30	48	45	36	54	49	47	52	46	61	55	50	49	43	52	..	46.3
Willow City	Maximum	71	70	70	64	59	48	51	55	55	59	63	64	67	53	51	54	51	57	61	59	66	60	59	66	73	74	70	70	73	74	..	62.1
	Minimum	36	47	48	53	48	33	29	29	33	46	24	47	38	46	24	27	41	43	27	48	50	36	55	45	52	57	50	45	38	40	..	41.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


No Rain
No Rain
No Rain
No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

SEP 7 - 1915

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JULY, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 28, 1915.

Departure of the Mean Temperature from the Normal, July, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., JULY, 1915. No. 7.

GENERAL SUMMARY.

Unusually low temperature and an excess of cloudiness characterized the weather during July. The mean temperature averaged more than five degrees below the normal, and was the coldest July of record since the climatological service was established in 1892. This departure from the normal was principally due to low day temperatures. Light frosts, however, occurred in various parts of the State on the 5th. Every station in the State produced a mean temperature below the normal. The average precipitation was somewhat above the normal, and was quite well distributed both geographically and throughout the month. A few scattered hail storms occurred, the most severe being in the western part of the State. Although the temperature was most too low for corn, small grains of all kinds made rapid growth, and prospects were never better for a bountiful yield of cereals. The sunshine was somewhat deficient. Hay and pastures were in excellent condition at the close of the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 29.96 inches. The highest was 30.45 inches at Bismarck, Burleigh County, on the 29th; the lowest was 29.39 inches at Williston, Williams County, on the 9th.

TEMPERATURE.

The mean temperature for the State was 62.3°, or 5.3° below the normal, and 9.8° lower than the mean for July, 1914. The highest mean reported was 66.8° at Forman, Sargent County; the lowest was 55.2° at Willow City, Bottineau County. The highest temperature reported was 97° at Dickinson, Stark County, on the 11th, and at Oriska, Barnes County, on the 12th; the lowest was 30° at Bowbells, Burke County, on the 4th, and at Minto, Walsh County, on the 23d. Generally the highest temperature occurred on the 12th, and the lowest on the 4th or 5th. The greatest daily range of temperature was 55° at Beach, Golden Valley County, on the 2d. The greatest monthly range of temperature was 60° at Dickinson, Stark County; the least was 43° at Hillsboro, Traill County. The distribution of temperature was quite uniform, and all stations showed means considerably below the normal.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 71.6 per cent, the average at 7 a. m. being 85.0 per cent, and at 7 p. m. 58.1 per cent.

PRECIPITATION.

The average precipitation for the State was 3.01 inches, or 0.34 inch above the normal, and 0.70 inch greater than the average for July, 1914. The greatest monthly amount reported was 7.55 inches at Bowman, Bowman County; the least was 0.67 inch at Maddock, Benson County. The greatest amount recorded in any twenty-four consecutive hours was was 2.50 inches at Powers Lake, Burke County, on the 9th. The average number of days with 0.01 inch or more of precipitation was eleven. The distribution of precipitation geographically was fairly uniform, and the distribution throughout the month was still more uniform. Particularly stormy periods were from the 1st to the 4th, inclusive, from the 8th to the 15th, inclusive, from the 18th to 20th, inclusive, and from the 24th to the 30th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 7.6 miles. The greatest wind movement was 6,565 miles at Devils Lake, an average of 8.8 miles per hour; the least was 4,677 miles at Moorhead (Minn.,) an average of 6.3 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 42 miles per hour from the southwest at Bismarck on the 9th, considering only the records of stations equipped with anemometers.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 12, partly cloudy 11, and cloudy 8.

ERRATA.

June, 1915: Page 44, Grand Rapids, monthly mean should be 59.6°; Minot, number of days with .01 inch or more of precipitation should be 15; New England, monthly mean and departure should be 57.4°, −5.0°.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1892...	68.7	+1.1	108	31	3.23	+0.56	8	19	8	4	se.
1893...	69.5	+1.9	112	35	2.04	−0.63	7	17	10	4	nw.
1894...	71.7	+4.1	107	38	0.53	−2.14	3	20	8	3	nw.
1895...	66.1	−1.5	102	29	2.90	+0.23	8	14	11	6	s.
1896...	67.5	−0.1	107	31	1.59	−1.08	6	15	10	6	nw.
1897...	68.9	+1.3	109	38	4.43	+1.76	9	13	11	7	s.
1898...	67.6	0.0	106	28	2.49	−0.18	7	15	11	5	nw.
1899...	68.3	+0.7	109	32	2.34	−0.33	6	18	9	4	nw.
1900...	67.9	+0.3	107	33	2.25	−0.42	6	16	10	5	nw.
1901...	70.8	+1.2	110	40	4.28	+1.61	6	18	7	6	se.
1902...	67.6	0.0	106	34	2.15	−0.52	5	20	7	4	nw.
1903...	66.7	−0.9	109	26	2.23	−0.44	7	17	8	6	nw.
1904...	64.4	−3.2	102	34	2.49	−0.18	6	17	8	6	nw.
1905...	65.6	−2.0	100	32	3.90	+1.23	8	17	9	5	nw.
1906...	66.9	−0.7	102	34	1.97	−0.70	11	13	8	10	nw.
1907...	65.8	−1.8	103	31	3.14	+0.47	9	16	11	4	nw.
1908...	68.6	+1.0	103	31	2.10	−0.57	6	19	9	3	nw.
1909...	67.1	−0.5	99	34	2.89	+0.22	8	15	9	7	nw.
1910...	70.0	+2.4	114	33	1.60	−1.07	5	18	9	4	nw.
1911...	65.1	−2.5	107	23	1.82	−0.85	6	18	10	3	nw.
1912...	66.0	−1.6	106	30	3.54	+0.87	10	12	13	6	nw.
1913...	65.6	−2.0	103	35	2.30	−0.37	8	17	8	6	nw.
1914...	72.1	+4.5	109	36	2.31	−0.36	6	19	9	3	se.
1915...	62.3	−5.3	97	30	3.01	+0.34	11	12	11	8	nw.

Climatological Data for July, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	64.4	−3.9	90	12	37	4	36	1.46	−1.85	0.49	0	7	19	2	10	n.	E. T. Carley
Aplin	Oliver	1,900	8	[j]62.6	.....	[j]85	12	[j]38	4	[j]35	3.54	.....	0.94	0	11	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	[e]63.8	−4.5	[f]88	12	38	5	[f]37	2.41	−0.08	1.06	0	7	18	10	3	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	62.0	.....	89	2	34	2	55	4.50	.....	1.38	0	11	10	17	4	se.	D. J. Steiner
Berthold Agency	McLean	2,082	21	62.2	−6.7	89	12	[a]37	† 4	[a]42	3.58	+1.60	0.72	0	16	13	11	7	se.	C. L. Hall
Bismarck	Burleigh	1,674	41	62.6	−7.6	86	9	39	5	34	4.02	+1.88	1.40	0	17	11	12	8	e.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	61.8	−3.9	87	12	35	2	41	0.81	−1.74	0.18	0	11	10	13	8	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	59.6	.....	85	22	30	4	44	3.21	.....	0.87	0	12	14	4	13	.....	G. H. Phelps
Bowman	Bowman	.....	1	62.0	.....	86	12	37	† 2	35	7.55	.....	1.71	0	13	9	0	22	.....	L. S. Diehl
Buford	Williams	1,944	36	62.8	−6.6	90	9	40	3	37	2.29	+0.59	1.31	0	7	14	13	4	nw.	P. Elmore
Cando	Towner	1,488	14	64.2	−0.4	91	†12	32	5	47	1.32	−1.57	0.33	0	11	13	0	18	.....	E. T. Judd
Carson	Morton	.....	3	61.0	.....	85	12	32	5	40	5.02	.....	1.31	0	16	15	9	7	e.	D. L. Basquin
Colgate	Steele	1,177	1	63.6	.....	88	13	38	5	38	1.96	.....	0.89	0	9	20	6	5	s.	H. P. Rice
Crosby	Divide	1,954	8	60.8	.....	85	22	41	† 5	33	3.26	.....	1.00	0	10	13	8	10	se.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	62.4	−5.7	86	12	40	5	36	1.00	−2.78	0.22	0	11	8	8	15	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	61.2	−6.7	97	11	37	2	36	3.71	+1.43	1.01	0	15	3	25	3	nw.	L. R. Waldron
Domybrook	Ward	1,760	16	58.7	−6.8	81	†12	38	5	39	4.80	+1.84	1.39	0	15	14	7	10	e.	Geo. Michel
Dunseith	Rolette	1,682	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Lamont
Eckman	Bottineau	.....	10	[a]61.1	.....	[a]86	23	[a]35	† 5	[a]42	1.94	.....	0.47	0	13	.....	.....	.....	n.	J. Nussbaum
Edgeley	LaMoure	1,468	14	63.0	−5.4	90	13	41	2	33	3.49	+0.81	2.17	0	8	5	11	15	nw.	O. A. Thompson
Energy	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	3.79	.....	1.06	0	11	6	13	12	se.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	2.93	.....	0.90	0	7	17	8	6	w.	M. E. Uggen
Fessenden	Wells	1,610	3	61.2	.....	87	12	37	5	36	2.83	.....	1.81	0	11	18	8	5	nw.	G. T. Seymour
Forman	Sargent	1,249	23	66.8	−2.4	92	13	42	† 2	36	0.88	−2.04	0.24	0	12	13	7	11	nw.	A. Maltby
Fullerton	Dickey	1,439	17	63.2	−4.6	88	13	41	† 2	34	2.01	−1.26	0.74	0	10	13	13	5	nw.	F. O. Alin
Garrison	McLean	1,901	20	60.9	−7.0	84	12	37	5	34	3.22	+0.87	0.83	0	9	12	12	7	se.	G. L. Robinson
Goodall	McKenzie	2,200	1	61.4	.....	85	12	40	5	34	3.28	.....	0.65	0	11	9	14	8	nw.	C. H. Layman
Grafton	Walsh	827	23	62.6	−4.8	84	†12	37	5	37	3.90	+1.37	2.30	0	14	19	7	5	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	62.8	.....	89	†11	40	† 2	42	2.60	.....	1.20	0	8	16	8	7	nw.	G. H. Leick
Granville	McHenry	1,504	8	62.5	.....	87	31	40	5	41	2.34	.....	0.96	0	8	10	13	8	sw.	W. A. Christianson
Hannah	Cavalier	1,568	10	58.3	.....	85	12	34	2	46	0.96	.....	0.44	0	6	14	6	11	nw.	J. Moffatt
Hansboro	Towner	1,597	7	60.6	.....	[a]88	12	34	5	46	1.17	.....	0.55	0	11	7	17	7	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	61.8	.....	88	13	33	5	42	6.63	.....	1.85	0	12	8	11	12	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	65.4	.....	85	†12	42	5	30	2.36	.....	1.12	0	8	10	17	4	nw.	F. E. Mayall
Howard	Williams	2,275	6	59.6	.....	84	9	40	† 3	35	3.14	.....	0.97	0	8	8	14	9	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	63.6	−4.6	92	13	40	5	40	1.66	−1.16	0.52	0	11	11	9	11	ne.	T. Pettigrew
Lakota	Nelson	1,579	14	[a]61.8	−3.2	[a]86	†11	[a]35	5	[a]41	2.10	−0.81	1.30	0	11	8	19	4	nw.	C. R. Pettes
Lamoine	Kidder	1,936	7	60.2	.....	86	12	36	4	33	2.54	.....	0.73	0	8	14	7	10	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	60.6	.....	84	12	36	† 2	36	2.72	.....	0.98	0	12	18	2	11	ne.	R. T. Burke
Larimore	Grand Forks	1,134	20	62.5	−3.7	84	12	38	2	32	2.17	−0.86	0.93	0	9	9	13	9	w.	G. G. Graham
Lisbon	Ransom	1,091	11	65.3	−2.4	90	12	40	† 2	35	3.08	−0.27	1.07	0	11	17	4	10	nw.	W. S. Adams
McHenry	Foster	1,509	5	62.4	.....	88	12	37	5	38	3.26	.....	1.83	0	7	20	7	4	e.	P. E. Truden
McKinney	Renville	1,640	21	60.4	−5.3	88	22	34	7	46	3.15	+1.08	1.10	0	7	11	11	9	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	65.5	.....	90	13	41	5	37	3.06	.....	0.68	0	14	11	15	5	nw.	E. W. Griggs
Maddock	Benson	.....	.....	63.2	.....	87	12	40	†20	40	0.67	.....	0.19	0	12	7	0	24	se.	W. M. Jackson
Mandan	Morton	1,644	1	63.0	.....	86	† 9	41	† 2	43	3.76	.....	1.16	0	12	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	61.4	−4.7	87	† 9	37	5	36	1.77	−0.69	0.90	0	10	11	15	5	nw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	4.14	.....	1.03	0	10	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	59.8	.....	88	23	36	5	41	4.95	.....	1.36	0	15	11	12	8	e.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	60.3	.....	86	9	31	5	41	2.21	.....	0.47	0	11	12	13	6	nw.	H. H. McCumber
Mayville	Traill	975	19	65.3	−3.8	89	†12	38	5	36	1.80	−1.56	0.45	0	9	17	7	7	nw.	W. C. Gould
Melville	Foster	1,590	17	.....	.....	.....	.....	.....	.....	.....	2.38	.....	1.00	0	5	.....	.....	.....	.....	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	1.37	.....	0.30	0	8	12	16	3	se.	Hj. Edman
Minot	Ward	1,557	19	59.6	−8.4	87	† 9	33	5	36	1.68	−0.28	0.24	0	13	8	21	2	nw.	W. I. Faris
Minto	Walsh	820	22	63.2	−3.9	87	12	30	23	45	5.00	+2.21	2.15	0	9	13	14	4	w.	C. M. Evans
Mott	Hettinger	2,424	8	61.8	.....	88	23	33	4	39	4.73	.....	1.60	0	13	11	8	12	e.	O. H. Opland
Napoleon	Logan	1,955	23	62.0	−6.1	91	12	36	3	43	2.22	−0.26	0.50	0	8	7	12	12	e.	C. J. Hoof
New England	Hettinger	2,400	21	63.4	−4.8	87	12	37	5	40	7.51	+5.73	1.80	0	12	10	15	6	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	60.4	−9.1	86	12	35	2	32	5.38	+3.41	1.48	0	16	7	17	7	se.	J. Christiansen
Orange	Adams	2,586	6	60.9	.....	86	12	31	3	40	4.02	.....	1.66	0	8	11	16	4	se.	J. E. Goforth
Oriska	Barnes	1,270	10	63.9	−3.8	97	12	39	5	48	1.47	−1.61	0.54	0	8	9	21	1	nw.	J. J. Taylor
Park River	Walsh	998	11	63.0	−4.3	83	12	39	2	35	2.88	+0.31	0.95	0	14	17	9	5	nw.	F. A. McCray
Pembina	Pembina	789	41	63.4	−4.0	92	5	38	5	54	4.44	+1.85	1.80	0	9	17	4	10	e.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.65	.....	0.98	0	8	12	6	13	nw.	J. A. Johnson
Power††	Richland	1,020	23	64.5	−4.2	88	12	42	2	36	1.73	−1.62	0.70	0	9	13	14	4	s.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	5.67	.....	2.50	0	13	12	16	3	ne.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	6.57	.....	1.25	0	15	5	13	13	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. A. Wales
Steele	Kidder	1,857	18	64.8	−3.8	87	11	40	5	30	3.34	+0.68	0.90	0	9	11	17	3	w.	H. S. Wood
Towner	McHenry	1,482	13	63.2	−2.9	87	†12	36	5	40	1.57	−0.97	0.65	0	9	6	17	8	w.	B. Bagley
Turtle Lake	McLean	1,899	3	62.1	.....	87	12	37	2	32	2.85	.....	1.10	0	8	10	18	3	nw.	E. J. Jones
University	Grand Forks	830	23	63.1	−4.1	86	12	40	5	32	2.25	−0.34	0.93	0	13	15	11	5	ne.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.51	.....	1.02	0	12	6	22	3	nc.	C. R. Lyman
Walpeton	Richland	962	21	63.0	−6.2	91	12	35	5	40	2.53	−1.53	0.76	0	10	12	6	13	se.	F. E. Smith
Walhalla	Pembina	966	8	[n]65.2	.....	[l]88	12	[m]40	25	[m]36	2.09	.....	1.12	0	11	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	17	[b]63.1	−5.4	[b]90	12	[b]38	4	[b]36	3.10	−0.80	1.65	0	10	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	9	61.4	.....	85	21	35	17	41	1.12	.....	0.17	0	12	12	12	7	nw.	C. M. Condit
Williston	Williams	1,875	36	62.0	−7.4	87	9	42	20	34	2.21	+0.18	0.66	0	12	6	14	11	e.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	55.2	−10.2	84	12	33	6	32	1.21	−0.96	0.38	0	7	4	22	5	nw.	M. A. Ostby
Zap	Mercer	1,800	2	61.7	.....	88	29	36	4	33	3.82	.....	1.25	0	14	10	13	8	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	65.2	−3.5	87	13	44	5	29	2.22	−1.52	0.52	0	13	19	7	5	nw.	U. S. Weather Bureau
Averages				62.3	−5.3	97	†11	30	† 4	55	3.01	+0.34	2.50	0	11	12	11	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

Daily Precipitation for July, 1915.

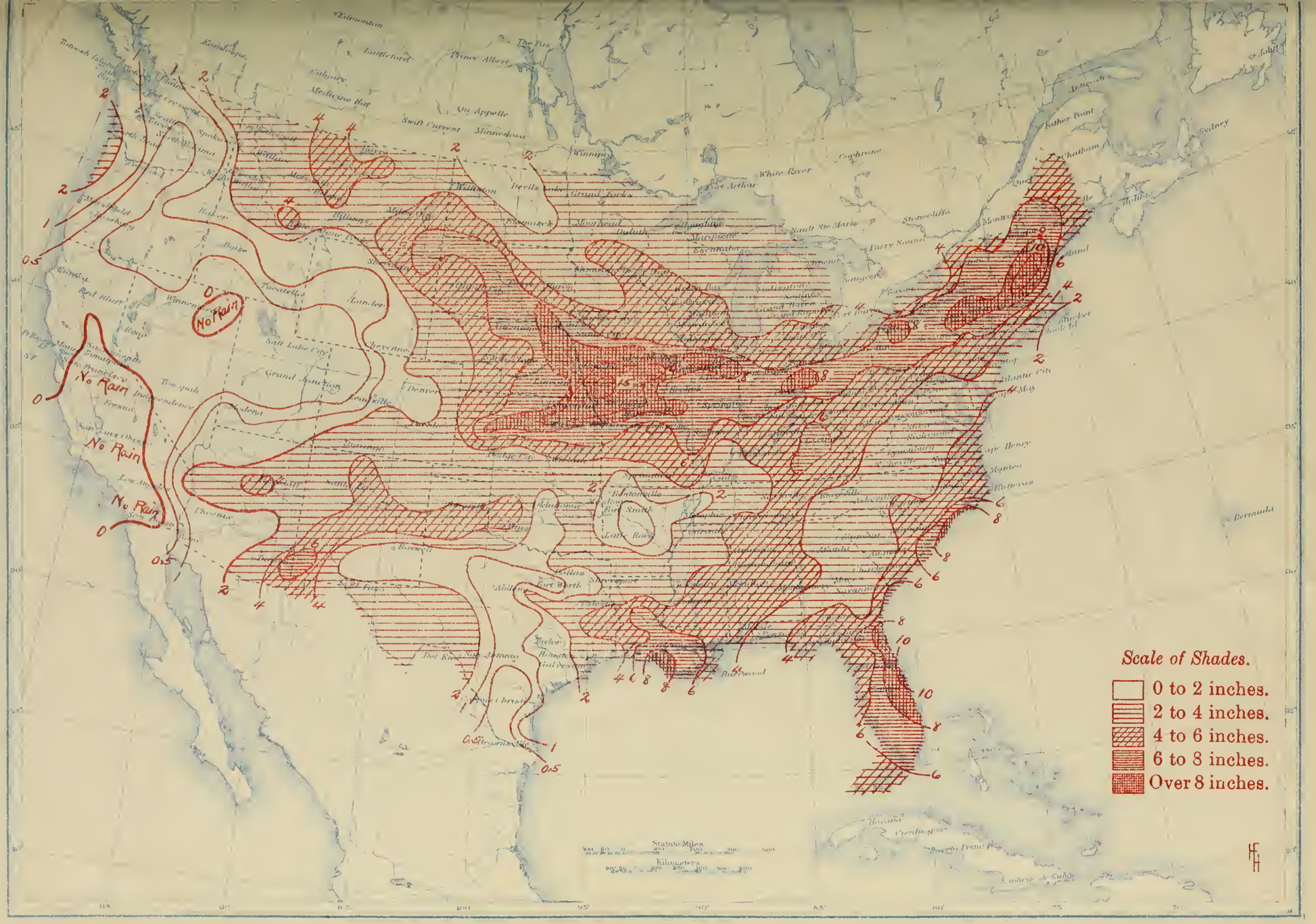
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red	T.		T.	.08					T.	.32	.49			.21	T.	T.			T.	T.	T.						.12			.14	.10	1.46
Aplin	Knife		.05		.45				.24		.38			.25	.40		T.			.30				.30	.08			.94			.15		3.54
Ashley	Missouri			.11	T.						.27			T.		.57		T.					T.	.15	.23	1.06	.02					2.41
Beach	Lit. Missouri	T.		.04							.78			.03	.06	.45		.16	T.	T.			.14	.15	T.	1.09	T.		1.38	.22	T.	4.50
Berthold Agency	Missouri	T.	.06	.43	.08	T.			.30		.48		.01	.72		.59		.02	.11	T.			.11	.18		.40	.01	.04		.04		3.58
Bismarck ***	Missouri	T.	T.	.13					.28	.05	.14		.01	1.19	.53	.36		.02	T.	.05			.04	.01	.03	.88	.06			.14	.10	4.02
Bottineau ‖ ‖	Mouse	.01	.03	.18	.10					.12	T.	.09		T.	.03	.02	T.		.10	T.	.03			.03				.16		T.			0.81
Bowbells ‖ ‖	Mouse		.10	.42	.12					.51	.17	.87				.04				.27				.06	.33	.27					.05		3.21
Bowman	Grand	.36							.52		.53		.03	.18	1.71	1.53		.28						.50	.24		.57			.65	.45		7.55
Buford	Missouri		T.	.20	T.					1.31				.09	T.			.45	.07						.10				.07				2.29
Cando	Sheyenne	.05		.20	.03					.33	.13			.13	.11				.02	.06				.11						.15			1.32
Carson	Heart	T.	T.	.17					.18		.38			.48	1.31		.03	.27	.04					.22	.63	.21	.85	.05		.02	.15	.03	5.02
Colgate	Sheyenne	T.		T.	.28				T.		.89	.11		.19	.13	.08				.04						.04	T.			.20			1.96
Crosby	Mouse	.08	.09	.40					.34		1.00				.08	T.		.12	.25					.75	.15				T.				3.26
Devils Lake ***	Sheyenne	T.	.06	.11					.12		.15		.22	.13		.01		.01	T.		T.		.05				.07			.07			1.00
Dickinson	Heart	T.	T.	.04	.01		T.		.43		.63	.05	.19	.02	.12	.60		.24	.05	.01				T.	.12		1.01			.12	.07		3.71
Donnybrook	Mouse		.29	.38	.01				.98		1.39		.13	.48	.06	.04		.13	.37	.30				.06	.09					.09			4.80
Dunseith	Mouse																																
Eckman	Mouse	T.	.28	.15	T.				.20		.26	T.	.06		.14	.04				.10					.04	.04	.15	.01		.47			1.94
Edgeley	James			.36							.09				1.86	.31			.20	.04							.35			.28			3.49
Energy	Missouri	T.	T.	.29		T.			1.06		.42	.08			.40				.24	.02				T.	.27		.85	.05		.11			3.79
Epping	Missouri			.55							.90			.28				.24	.60					.18	.18								2.93
Fessenden ‖ ‖	James	T.	.04	.16	.10				.07	T.	.07	T.	T.	T.	1.81	.02	T.		T.	T.	.02				.33	T.	.01	.20			T.			2.83
Forman	Sheyenne		.02		.15	.01			T.		.01				.02	.24			.13	.02					.02		.13	.11			.02			0.88
Fullerton	James	T.	.04	.74		.07				.06				T.		.39			.27	.06					T.		.28	.06	.04					2.01
Garrison	Missouri		T.	.29					.58	.30	.29				.45			T.	.30	.08				T.	.10		.83						3.22
Goodall	Missouri			.42					.45		.22		.10	.65	.32				.62					.10	.25		.10	.05					3.28
Grafton ‖ ‖	Red	.02	.01	.07						.63	.05	2.30		.03	.11		.12	.14		.30				.05				.01			.06		3.90
Grand Rapids	James		T.	.20	T.						T.			1.20		.25			.10	.05					.25		.25				.30		2.60
Granville	Mouse		.25	.15					.22				.22	.35	T.				.12						.07		.96						2.34
Hannah	Pembina	.02	.09	.05										T.					T.	T.			.35	.44						T.		.01	0.96
Hansboro	Red			.16					T.	T.	.08			T.		.20			.03	.01				.55			.05	.05		T.		.04	1.17
Hettinger	Grand	.11		.01					.93		.33	T.	.30	T.	.71	1.85	T.	.10	T.	T.						.20	.12			.88	1.09		6.63
Hillsboro	Red		.06	.09						.10	1.12			.68	.26	T.			T.											.01	.04		2.36
Howard	Missouri	T.	.01	.51	T.				T.	T.	.59			T.	T.	T.		.27	.97					.43	.35				T.	.01		T.	3.14
Jamestown ‖ ‖	James		.01	.08	.20	.03				.02	.04	.04			.52					.15					.25			.32					1.66
Lakota	Sheyenne	.02	.10	.14	.02				.07	1.30			.16		T.	T.		T.	T.	T.			.07	.16			.05		.01				2.10
Lamoine	Missouri	T.		.41					.16		.11		.30	T.		.31			.32	T.					T.	.20	.73						2.54
Langdon ‖ ‖	Pembina	.06	.05	.07	.09					.08	.98	.61					.14		.02	.27	T.			.35									2.72
Larimore ‖ ‖	Red			T.	.29					.29	.14	.93			.15		.14			.08				.10							.09		2.17
Lisbon ‖ ‖	Sheyenne			.10	.90					T.	T.	T.	T.		1.07	.02	.12		.04	.15					.06	.10		.22	T.			.30	3.08
McHenry	James	T.	T.	.13					.36		1.83		T.	.25							T.						.32			.20	.17		3.26
McKinney	Mouse	T.	.33	.30					1.10	.30					.12				.50	T.				.40						T.			3.15
McLeod	Sheyenne		.15	.12	.05					.12	.47			.68	.15	.01			.30	.15					.05		.06	.18			.57		3.06
Maddock	Sheyenne	.01	.05	.08									.19	.02	.02				.02		.04				.01		.12	.10			.01		0.67
Mandan	Missouri		T.	T.	.15					.19	.30			.06	.07	1.16		T.	T.	T.	.05				.41	.08	.43	.55	T.		T.		.31	3.76
Manfred	Sheyenne	.07	.06	.23	T.				.04		.04		T.	.90		T.			.07				T.	.07	T.	.14	.15						1.77
Manning	Knife			.22					.49		.60	.05			1.03				.28						.23		.64			.20	.40		4.14
Marmarth	Lit. Missouri	.23		.04			T.		.64		.07	.03	.04	.09	1.36	.17		.22		T.					.05		.76			.48	.76	.01	4.95
Marstonmoor	James	T.	T.	.22	T.				T.		.31	T.		T.	.47	.24			.26	T.				.06	.28	.10	.09	.08		T.	.10		2.21
Mayville	Red			.09						.14	45	.11		.15	.36						.02			.08							.40		1.80
Melville	James									1.00				.55	.25									.33				.25					2.38
Milnor	Red		T.	.22	.18					.04					.24				T.	.30					.10		.09				.20		1.37
Minot ‖ ‖	Mouse			.24	.15					.12		.20	.04		.12	.08			.10	.07	.15					.10		.24			.07		1.68
Minto	Red		.09	.02					.15	1.70	2.15		.07	.04		.68			.07		.03												5.00
Mott	Cannon Ball			.06					.52		.15		.02		.60	.94		.22		.04					.04		1.60			.10	.42	.02	4.73
Napoleon ‖ ‖	Missouri				.27					.03	.31				.36	.45										.10	.50	.20					2.22
New England	Cannon Ball			.16					.93		1.13		.23	.10	1.43	.70		.45	.04								1.80			.27	.27		7.51
New Rockford	James																																
New Salem	Heart		T.	.39					.15		.30		.36	.12	1.18	.66		.04		.07				.30	.03	.10	1.48	.09		.03	.08		5.38
Orange	Cannon Ball	.03							.70		.45					1.66			T.	T.				.30			.15	T.		.38	.35		4.02
Oriska	Sheyenne			T.	.07	T.			T.		.17			.36	.54	.04		T.	T.	.06					T.	.06		T.			.17		1.47
Park River	Red	.01	.08	.01					T.	.49	.74	.04	.95	T.	.08	.28			.01	.10			.02	T.			T.	.01		.06			2.88
Pembina ‖ ‖	Red	T.	.12	T.	.10					.10	1.80	1.60	.18		T.		.10	T.	T.	T.				.42				.02					4.44
Plaza	Missouri			.34					.33		.92			.28		.52			.98					.08	.20								3.65
Power	Sheyenne			.03	.10				.09		.25			.17					.18	.04							.17				.70		1.73
Powers Lake	Missouri	T.	T.	.20			.10	.20	T.	2.50	.15				.04	.06		T.	.10	.60			T.	.10	.12				T.		.95	.55	5.67
Ranger	Lit. Missouri	.05		.15	.02				.39		.94	T.	.07	.13	.54	.71		1.03		T.				.25	.02		1.25			.75	.27		6.57
St. John	Mouse																																
Steele	Missouri		T.	.33	.11				T.	.12	.45				.66	.90				T.	T.				.04		.65	.08					3.34
Towner	Mouse			.18					.24		T.		.13	.08	T.	.10			.10	T.					.05	.04	.65						1.57
Turtle Lake	Missouri	T.		.25	T.				.25		.15		T.			.50		T.	.10	.40					.10		1.10						2.85
University	Red	.02	.07	.03					.13	.02	.54		.38	.63		.06			T.	.08				.01						.27	.01		2.25
Van Hook	Missouri		T.	.25	.03				1.02	.03	.34			.84					.56	.03				.16	.17		.02			.06			3.51
Wahpeton ‖ ‖	Red			.02	.40					.35		.76			.15	.10			.06	.25		.18						.26					2.53
Walhalla	Pembina				.36						1.12	.06	.13	T.	.04	.03		T.	.05	T.	.05		.10	.05								.10	2.09
Washburn	Missouri			.32	.02				.13					.25		.35		T.		T.	.10			.05			1.65	.06			.17		3.10
Westhope	Mouse		.15	.13	.08	.11			.25	.02	.02				.05	.07		T.	.17						.04		.03						1.12
Williston ***	Missouri		.01	.18					.09	.02	.64		T.	.08	.08			.30	.35					.14	.21			T.	.11				2.21
Willow City	Mouse	T.	.15	.09	T.	T.			.18		.38			.05	.12			T.	T.	T.				T.			.24						1.21
Zap	Knife		.05	.17	T.				1.25		.45		.08			.42		.02	.26	.04				.02	.22		.51		.10		.23		3.82
Moorhead, Minn ***	Red		.05	.06	.01				.03	.17	.51			.26		.52			.05	T.						T.	.35	.05		.08	.08		2.22

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	64	60	65	65	74	75	80	79	81	74	84	90	88	79	78	82	64	73	74	79	81	84	74	72	74	68	77	82	85	79	86	76.5
	Minimum	52	41	45	37	38	52	52	51	57	62	53	57	63	62	62	52	50	52	56	46	51	49	55	51	58	48	56	52	53	57	52	52.2
Aplin	Maximum	—	75	—	64	—	75	75	75	83	77	80	85	80	77	76	63	—	—	68	76	75	81	78	70	—	—	72	—	—	78	—	[a]75.4
	Minimum	—	40	—	38	—	40	50	60	57	60	48	65	51	58	51	46	—	—	45	40	40	52	58	54	—	—	50	—	—	43	—	[a]49.8
Ashley	Maximum	—	—	—	—	—	—	76	71	84	74	84	88	86	80	77	76	66	72	67	74	76	81	82	67	66	62	71	75	80	76	78	[f]75.6
	Minimum	55	39	41	40	38	51	57	55	61	60	51	56	64	63	61	59	47	50	50	49	47	44	55	53	53	50	55	47	55	52	52	51.9
Beach	Maximum	75	89	57	66	80	76	78	80	86	76	81	83	78	74	75	78	69	67	67	76	79	82	87	69	73	69	72	73	77	71	77	75.5
	Minimum	40	34	40	37	40	49	48	54	49	56	57	52	60	59	52	45	49	48	38	36	45	47	56	56	54	55	47	53	53	55	43	48.6
Berthold Agency	Maximum	67	61	58	67	75	81	81	77	88	75	81	89	78	68	74	76	71	69	70	75	81	83	76	63	71	69	77	78	81	76	82	74.8
	Minimum	49	44	43	37	37	47	46	57	55	60	46	52	58	57	60	46	47	51	42	—	39	51	57	53	52	52	55	49	54	51	42	[a]49.6
Bismarck	Maximum	66	61	57	62	73	74	78	70	86	76	84	84	81	72	79	79	64	68	67	74	78	62	79	67	66	63	72	76	80	74	78	73.2
	Minimum	48	43	45	42	39	52	53	59	57	59	52	58	62	62	57	50	46	52	49	44	45	51	57	55	53	53	53	55	50	59	55	51.9
Bottineau §§	Maximum	62	60	62	71	74	76	80	75	85	71	85	87	81	68	81	71	67	65	71	76	81	88	70	76	75	65	80	81	83	81	82	75.2
	Minimum	50	35	43	39	37	50	51	52	59	59	51	52	55	51	52	42	39	46	50	43	40	49	54	48	48	48	53	47	57	51	47	48.3
Bowbells §§	Maximum	65	69	60	72	70	76	78	73	82	71	82	82	68	62	63	65	70	68	69	75	80	85	65	65	71	77	77	77	79	75	80	72.6
	Minimum	45	40	41	30	38	39	49	52	51	60	47	51	50	48	48	49	47	50	48	36	36	53	53	43	49	52	52	48	52	42	45	46.6
Carson	Maximum	67	64	56	58	72	73	75	76	83	74	82	85	78	74	78	76	66	66	65	72	77	78	84	62	70	63	70	74	78	75	77	72.5
	Minimum	53	38	40	38	32	44	50	58	55	61	46	53	56	62	58	49	47	52	43	38	40	47	55	54	53	55	55	50	54	55	46	49.6
Crosby	Maximum	65	60	59	65	72	70	79	78	83	76	81	80	72	66	71	69	59	61	67	75	81	85	75	60	68	69	75	77	75	76	80	71.9
	Minimum	45	42	45	48	41	50	53	59	54	59	48	52	51	50	58	52	41	47	48	43	49	55	55	51	49	54	46	50	50	48	59	49.7
Devils Lake	Maximum	64	59	58	65	72	74	78	76	84	78	82	86	80	71	81	75	59	64	68	75	78	86	70	71	72	67	75	80	82	76	81	73.8
	Minimum	44	41	43	42	40	48	48	54	61	63	55	60	63	53	58	51	49	50	48	43	46	58	56	46	50	46	51	52	60	56	45	51.0
Dickinson	Maximum	69	61	57	63	74	76	75	77	82	75	97	86	74	72	72	76	71	61	65	72	78	78	80	63	68	65	68	78	76	68	76	72.7
	Minimum	50	37	39	40	39	47	52	58	53	57	51	56	60	58	56	46	47	51	39	38	42	51	56	54	53	54	53	50	50	58	44	49.6
Donnybrook	Maximum	63	57	59	66	69	74	74	69	79	73	80	81	71	64	74	67	55	60	60	70	76	81	69	64	68	63	73	73	76	73	76	69.6
	Minimum	47	41	42	40	38	42	43	50	54	58	41	52	54	49	59	50	39	48	50	41	44	55	53	49	47	50	50	47	55	48	46	47.8
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Edgeley	Maximum	69	63	62	60	71	74	73	77	84	78	84	88	90	77	78	77	75	69	68	72	75	81	78	69	70	65	73	77	80	76	77	74.5
	Minimum	50	41	43	42	42	51	52	48	62	61	54	57	59	62	63	53	48	50	52	45	48	48	52	53	49	50	55	49	53	50	50	51.4
Fessenden §§	Maximum	66	59	57	66	72	76	78	74	84	78	83	87	83	74	79	76	62	67	68	76	79	85	73	70	71	61	76	78	81	76	80	74.0
	Minimum	53	40	44	38	37	48	46	46	52	59	47	55	58	54	55	57	42	48	48	43	43	50	55	50	50	44	51	48	50	54	44	48.4
Forman	Maximum	77	68	64	63	76	74	81	78	85	83	86	91	92	88	87	87	81	74	71	77	80	84	80	75	74	72	74	74	81	86	79.3	
	Minimum	57	42	44	45	42	53	57	51	63	65	54	63	65	66	66	55	56	63	53	47	48	49	51	54	55	53	57	48	55	48	54	54.2
Fullerton	Maximum	68	61	63	60	73	72	75	71	83	78	84	87	88	78	79	79	67	70	66	73	75	82	80	69	70	63	73	74	79	82	72	74.0
	Minimum	51	41	43	43	41	53	55	48	63	64	53	57	64	65	64	51	48	52	54	44	47	48	50	55	51	53	54	55	50	53	52	52.3
Garrison	Maximum	70	60	58	64	69	76	76	71	83	72	80	84	79	76	77	74	61	59	66	74	78	78	73	67	67	61	75	74	74	78	76	71.9
	Minimum	50	41	43	38	37	47	45	54	57	50	48	53	60	60	55	48	45	50	47	40	54	57	53	52	58	50	54	48	46	52	54	49.9
Grafton §§	Maximum	67	63	63	68	74	76	80	78	77	70	80	84	82	78	73	76	61	66	73	79	80	83	72	74	75	71	79	83	84	79	82	75.2
	Minimum	54	38	40	46	37	47	47	45	60	63	59	59	61	53	56	51	47	51	50	49	46	53	57	46	43	42	52	48	52	50	45	49.9
Granville	Maximum	72	59	60	66	75	75	77	75	83	79	80	84	83	70	77	70	65	63	65	70	75	82	70	70	70	65	75	75	76	77	87	73.2
	Minimum	58	44	45	41	40	45	45	52	53	72	52	62	62	59	58	50	42	50	52	46	45	54	55	50	50	50	55	65	56	52	46	51.8
Hannah	Maximum	57	56	60	62	74	76	79	82	84	73	76	85	77	73	83	65	61	63	74	84	82	84	64	71	70	71	79	84	80	76	80	73.7
	Minimum	40	34	36	40	39	42	44	46	45	40	51	48	53	48	46	46	44	41	39	38	46	47	50	37	38	35	44	46	43	44	39	42.9
Hansboro	Maximum	64	59	60	65	72	76	80	78	82	76	83	88	82	70	82	68	66	69	71	80	82	87	68	71	73	68	70	82	81	78	82	74.6
	Minimum	47	35	39	40	34	47	42	40	60	60	58	44	52	50	58	50	52	56	57	40	40	64	53	39	42	38	38	36	54	49	38	46.7
Hettinger	Maximum	56	63	67	60	75	75	77	77	83	74	80	86	88	79	72	77	75	65	67	71	76	79	87	60	72	67	67	75	78	74	71	73.3
	Minimum	45	37	37	35	33	50	58	55	55	58	55	53	59	59	57	46	48	53	41	39	43	52	57	56	53	54	55	54	48	58	53	50.2
Howard	Maximum	67	61	60	67	74	78	79	77	84	73	80	83	66	61	72	71	59	63	66	74	80	83	70	58	68	71	74	73	75	74	80	71.6
	Minimum	41	41	40	41	45	48	49	54	54	55	45	51	54	51	55	43	42	46	43	40	45	52	55	51	43	50	43	46	49	51	57	47.7
Jamestown §§	Maximum	70	62	60	62	78	77	81	79	85	82	88	90	92	84	80	80	65	68	68	75	78	84	84	68	68	61	78	79	82	72	88	75.8
	Minimum	55	43	46	45	40	48	51	51	59	65	54	51	63	61	59	51	47	49	50	42	47	46	52	53	52	50	55	51	53	59	48	51.5
Lakota	Maximum	66	59	59	64	71	73	76	75	74	79	86	78	75	79	76	76	64	64	69	73	78	84	—	68	71	78	79	83	77	86	79	[a]74.0
	Minimum	50	39	44	44	35	46	47	48	62	54	60	62	46	60	52	49	52	50	53	46	46	43	—	46	54	42	45	53	54	59	43	[a]49.5
Lamoine	Maximum	63	58	58	61	68	72	74	69	82	73	80	86	83	75	78	77	59	64	64	70	75	82	75	64	66	60	73	72	77	69	77	71.2
	Minimum	49	38	40	36	38	50	46	52	56	59	47	53	62	55	55	47	41	48	47	40	43	58	52	51	49	49	51	47	55	54	54	49.1
Langdon	Maximum	64	67	58	62	71	75	79	78	79	69	77	84	77	71	76	70	58	77	67	75	80	82	66	68	74	69	74	82	80	73	79	72.9
	Minimum	49	36	40	43	36	47	47	52	60	61	59	55	60	50	54	48	46	49	48	43	44	51	52	42	42	45	49	46	50	47	46	48.3
Larimore §§	Maximum	66	59	59	66	71	74	77	77	78	75	80	84	80	71	72	77	60	58	68	76	78	82	68	70	71	67	75	82	80	75	78	72.7
	Minimum	55	38	47	46	42	48	55	52	58	63	56	58	68	56	62	50	46	52	52	48	50	50	58	50	50	42	56	50	57	55	50	52.3
Lisbon §§	Maximum	70	64	64	60	75	74	78	78	83	82	86	90	87	75	80	80	73	70	70	75	84	82	78	74	72	69	72	78	81	84	80	76.1
	Minimum	49	40	43	43	40	53	45	44	60	64	65	60	67	70	64	59	52	54	50	52	53	55	59	60	60	56	54	54	54	58	54	54.5
McHenry	Maximum	65	60	59	65	75	75	79	77	85	77	82	88	79	70	81	75	60	66	68	74	79	83	68	77	75	65	78	83	81	76	79	74.3
	Minimum	52	38	45	43	37	52	48	54	58	62	52	58	64	58	63	50	48	46	44	42	45	53	57	46	45	45	52	49	58	58	48	50.6
McKinney	Maximum	64	65	60	72	73	78	80	72	81	70	85	85	72	65	78	68	70	64	75	78	81	88	80	70	72	68	75	81	82	84	83	74.8
	Minimum	45	42	40	52	35	35	34	48	50	48	48	48	63	50	60	38	38	38	40	40	40	50	50	60	47	53	56	40	54	45	43	46.1
Manfred	Maximum	65	58	57	64	73	72	76	73	87	75	80	87	81	70	78	75	67	64	67	74	78	82	69	68	68	61	77	80	80	75	78	72.9
	Minimum	50	41	45	44	37	48	46	49	55	62	52	54	59	55	62	50	43	50	48	43	45	51	56	50	50	47	54	48	57	53	45	50.0
Marmarth	Maximum	62	63	57	65	77	76	75	76	84	75	81	85	79	78	70	77	67	62	68	72	76	81	88	73	—	73	69	78	78	76	75	71.5
	Minimum	48	38	42	38	36	53	55	55	52	55	59	54	50	53	55	46	51	49	40	43	46	48	57	56	—	54	46	53	56	48	51	48.0
Minot §§	Maximum	71	64	63	70	76	78	79	71	87	72	85	87	80	73	78	79	62	65	71	75	80	86	70	71	74	63	82	79	81	71	83	75.0
	Minimum	47	39	39	36	33	42	38	47	51	59	45	49	55	49	48	48	37	45	44	36	37	45	42	46	45	46	47	43	50	47	37	44.3
Mott	Maximum	65	67	54	61	70	76	77	79	84	76	83	85	83	79	77	78	68	64	66	70	80	86	88	69	75	68	73	78	77	78	78	74.3
	Minimum	38	34	35	33	43	47	52	53	51	49	54	57	62	56	53	55	50	45	40	38	41	53	59	52	53	54	56	55	54	52	55	49.3
Napoleon §§	Maximum	66	62	64	67	72	75	79	72	90	76	87	91	88	75	78	78	67	72	69	75	78	87	80	70	69	61	75	81	82	76	83	75.6
	Minimum	53	37	36	38	38	42	50	50	55	58	56	53	60	61	60	50	44	45	47	37	42	44	51	51	50	48	52	45	46	50	47	48.3
New England	Maximum	74	64	58	63	77	79	80	77	85	78	85	87	86	81	75	79	77	62	65	73	74	80	81	84	73	74	68	84	78	78	77	77	75.9
	Minimum	53	53	35	38	37	47	56	57	56	58	54	56	60	61	58	48	42	52	41	40	44	53	56	55	54	55	52	51	54	58	50	51.1
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	71	61	45	60	71	75	71	75	84	75	82	86	78	70	75	72	70	65	65	72	76	79	80	73	66	61	76	74	70	72	78	71.9
	Minimum	51	35	38	37	40	45	51	53	57	59	50	57	55	58	57	50	44	49	41	42	46	54	53	62	45	50	49	50	48	45	48	49.0
Orange	Maximum	65	50	58	59	73	75	75	78	83	75	80	86	60	80	74	77	62	60	67	73	77	79	85	80	65	65	68	75	78	75	75	72.6
	Minimum	40	36	31	36	33	47	54	58	55	55	53	54	56	56	55	47	47	45	40	40	43	48	50	54	56	54	58	53	54	58	59	49.2
Oriska	Maximum	68	68	66	62	73	78	78	76	82	77	84	97	88	73	80	78	68	71	70	75	81	82	73	71	73	68	75	81	83	75	82	76.0
	Minimum	45	45	45	45	39	63	63	48	61	62	55	54	54	58	59	53	49	51	51	46	48	58	51	51	45	45	51	54	54	49	51.8	
Park River	Maximum	68	59	60	66	75	76	79	79	79	76	80	83	80	72	74	75	68	64	68	75	77	81	72	70	76	70	77	81	81	75	80	74.1
	Minimum	52	39	42	48	40	49	48	49	61	64	60	58	65	52	62	57	47	52	51	50	49	55	56	55	42	45	50	53	60	52	46	51.8
Pembina §§	Maximum	71	62	59	62	92	82	91	78	78	72	81	91	82	78	74	72	67	64	68	78	82	82	78	77	78	74	76	78	81	88	78	76.5
	Minimum	52	41	41	41	38	52	49	56	54	59	57	52	58	56	58	52	44	41	42	44	54	57	51	51	44	51	52	51	61	51	52	50.3
Power	Maximum	75	64	62	65	76	72	76	78	80	75	82	88	85	86	78	80	68	71	71	80	80	82	82	78	73	65	74	79	84	78	78	76.3
	Minimum	53	42	45	45	50	47	40	48	60	61	56	64	64	63	62	53	55	50	56	45	50	55	50	53	53	50	56	47	53	56	53	52.7
Towner	Maximum	75	59	60	67	74	78	81	77	85	85	84	87	85	70	81	78	67	66	71	78	79	87	85	75	76	67	76	79	80	74	83	76.4
	Minimum	41	42	49	40	36	49	46	52	57	62	50	55	61	55	64	48	44	51	51	40	49	52	52	49	50	52	54	48	58	51	43	50.1
Turtle Lake	Maximum	65	60	54	64	71	75	78	70	85	72	82	87	83	69	77	75	61	64	66	73	77	82	73	66	68	60	74	76	79	78	78	72.3
	Minimum	58	37	42	39	42	49	48	55	58	60	50	57	60	57	57	54	48	51	49	45	55	57	57	55	53	49	55	53	56	55	47	51.9
University	Maximum	66	59	60	65	72	73	78	77	77	71	81	86	82	78	74	78	61	68	70	76	78	83	70	70	73	67	76	80	79	74	78	73.5
	Minimum	46	42	49	45	40	50	52	52	63	64	59	57	66	59	63	54	50	53	51	47	51	54	56	50	52	48	56	50	54	55	49	52.7
Wahpeton §§	Maximum	72	60	65	66	72	72	78	80	85	85	80	91	88	86	80	73	78	75	78	77	78	83	80	73	77	73	73	82	88	80	83	77.8
	Minimum	46	36	38	40	35	50	52	47	55	57	55	57	62	59	57	49	42	46	47	40	43	44	50	50	48	45	52	42	50	50	51	46	48.1
Washburn	Maximum	70	61	58	64	—	76	79	74	87	—	85	90	82	—	79	79	67	67	68	—	80	84	79	66	69	64	75	77	80	73	78	[d]74.5
	Minimum	53	45	45	38	—	39	51	59	58	—	51	57	60	—	57	51	45	51	50	—	44	55	58	54	52	52	55	52	58	58	48	[d]51.7
Westhope	Maximum	72	62	60	67	75	77	80	76	83	83	81	81	79	67	78	68	60	63	73	78	85	75	72	73	67	79	80	80	78	80	83	74.8
	Minimum	49	42	44	42	38	49	45	51	58	63	50	50	50	51	52	46	35	49	50	41	48	53	45	48	53	55	44	53	46	50	42	48.1
Williston	Maximum	64	62	59	69	76	79	78	78	87	76	82	85	68	64	72	74	56	62	66	74	81	86	70	59	68	71	76	74	78	74	82	72.6
	Minimum	43	42	45	54	54	62	57	57	52	55	59	54	57	50	48	51	48	42	47	55	57	54	51	54	50	50	54	53	48	53	46	51.5
Willow City	Maximum	44	48	48	50	49	63	68	65	76	63	81	84	80	67	69	65	54	56	53	58	67	68	59	66	61	59	66	63	78	79	77	64.1
	Minimum	37	40	44	36	37	33	44	50	56	60	50	52	58	52	58	47	36	49	49	37	38	40	45	44	51	41	53	44	49	47	55	46.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


No Rain
No Rain
No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

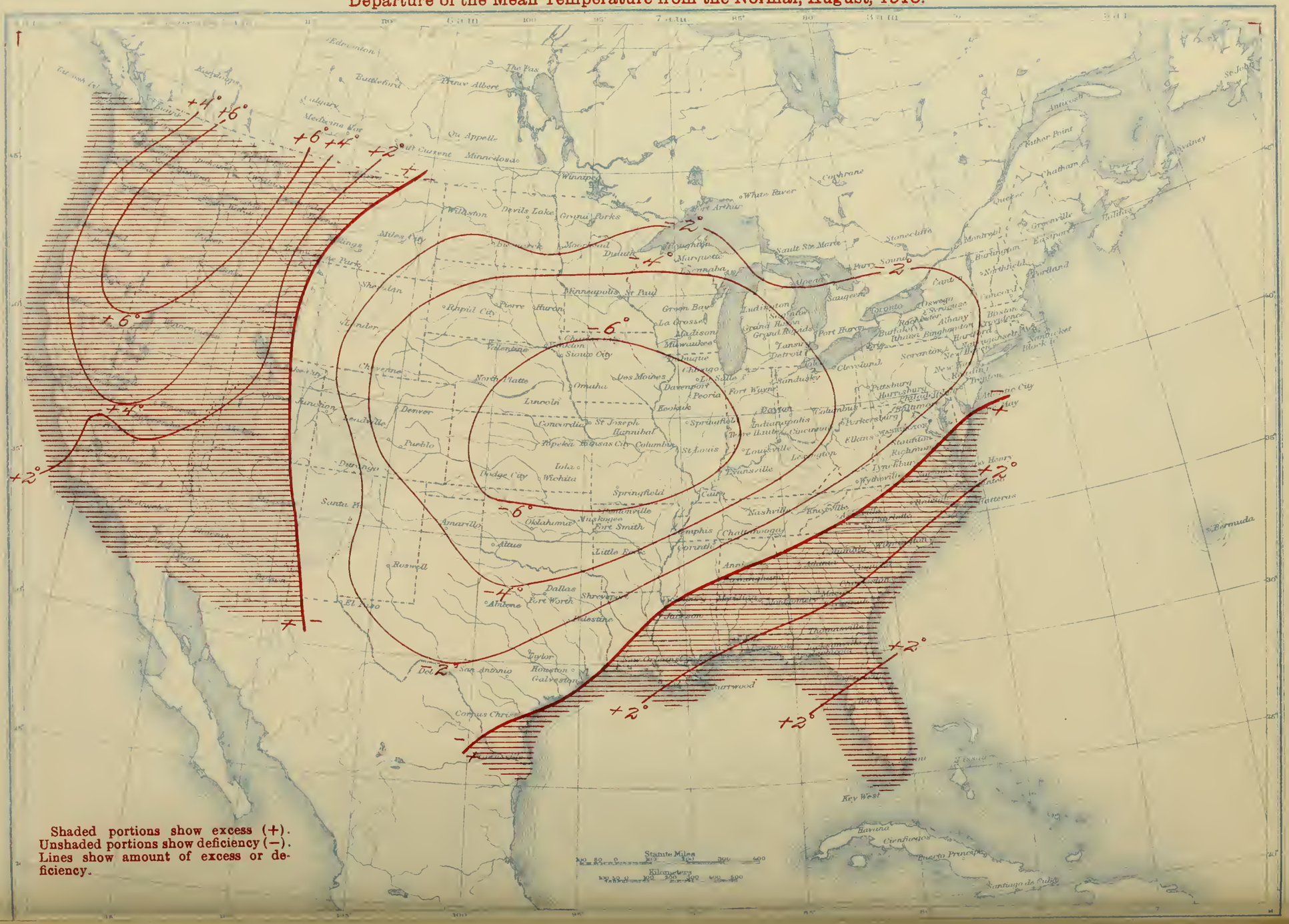
AUGUST, 1915

BY

ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 25, 1915.

Departure of the Mean Temperature from the Normal, August, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

Vol. XXV. Bismarck, N. D., August, 1915. No. 8.

GENERAL SUMMARY.

The weather during August was generally favorable for outdoor work, and for all crops except corn. The temperature averaged somewhat below the normal, due principally to low night temperatures, the lowest, 19° at New Rockford, Eddy County, on the 26th, being the lowest of record for the State for August. During the past twenty-four years, or since the Climatological Service was established in the State, there have been fourteen warmer and nine colder Augusts. Light to killing frosts were quite frequent during the last six days of the month, and did considerable damage to corn, potatoes and garden truck. The precipitation was deficient, averaging only about one-half of the normal, but was ample for all needs. Harvesting made excellent progress, and threshing was well started at the close of the month. The sunshine was slightly above the normal, and the wind movement was nearly the average.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.04 inches. The highest was 30.44 inches at Bismarck, Burleigh County, on the 29th; the lowest was 29.61 inches at Devils Lake, Ramsey County, on the 31st.

TEMPERATURE.

The mean temperature for the State was 64.4°, or 1.1° below the normal, and 0.2° higher than the mean for August, 1914. The highest mean reported was 67.8° at Walhalla, Pembina County; the lowest was 60.4° at Willow City, Bottineau County. The highest temperature reported was 100° at McKinney, Renville County, on the 31st; the lowest was 19° at New Rockford, Eddy County, on the 26th. Generally the highest temperature occurred on the 31st, and the lowest on the 24th or 26th. The greatest daily range of temperature was 58° at McKinney, Renville County, on the 30th. The greatest monthly range of temperature was 72° at Walhalla, Pembina County; the least was 50° at Forman, Sargent County, and at Fullerton, Dickey County.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 70.4 per cent, the average at 7 a. m. being 87.9 per cent, and at 7 p. m. 52.9 per cent.

PRECIPITATION.

The average precipitation for the State was 1.18 inches, or 1.14 inches less than the normal, and 1.00 inch less than the average for August, 1914. The greatest monthly amount reported was 3.44 inches at Bismarck, Burleigh County; the least was 0.07 inch at University, Grand Forks County. The greatest amount recorded in any twenty-four consecutive hours was 3.02 inches at Bismarck, Burleigh County, on July 31st and August 1st. The average number of days with 0.01 inch or more of precipitation was 4. The distribution of precipitation over the State was fairly uniform. The precipitation generally came in showers, and these were frequent on the 1st and 2d, during the 20th to 22d, inclusive, and on the 27th and 28th. Widely scattered showers fell on the 5th, and during the 11th to the 18th, inclusive.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 6.4 miles. The greatest wind movement was 5,990 miles at Devils Lake, an average of 8.1 miles per hour; the least was 4,253 miles at Williston, an average of 5.7 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 38 miles per hour from the south at University, Grand Forks County, on the 31st.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 19, partly cloudy 8, and cloudy 4.

ERRATA.

Page 52: Bottineau, highest temperature and date should be 88° on the 22d, and total precipitation and departure, 0.90, —1.65 inch; Cando, highest temperature and date should be 96° on the 16th; Dickinson, number of days with .01 inch or more precipitation should be 16; Hansboro, number of days with .01 inch or more precipitation shoud be 9; Minto, number of days with .01 inch or more precipitation should be 10; New England, lowest temperature and date should be 35° on the 31; Oriska, mean temperature and departure should be 63.8°, —3.9°; Power, lowest temperature and date should be 40° on the 7th; Powers Lake, total precipitation should be 6.05, number of clear days, 14, number of partly cloudy days, 14, and prevailing wind, northwest.

Page 53: Bottineau, total precipitation should be 0.90; Powers Lake, precipitation on the 29th should be .93 inch, on the 31st, none, and total precipitation, 6.05 inches.

Page 54: Oriska, mean minimum should be 51.6°.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	67.3	+1.8	105	24	2.29	−0.03	8	15	10	6	se.
1893...	66.7	+1.2	109	29	1.31	−1.01	3	20	7	4	nw.
1894...	68.8	+3.3	102	30	0.38	−1.94	4	17	10	4	nw.
1895...	64.5	−1.0	104	24	1.57	−0.75	5	17	11	3	nw.
1896...	64.7	−0.8	107	21	1.39	−0.93	5	17	10	4	nw.
1897...	64.1	−1.4	106	29	1.18	−1.14	5	15	10	6	nw.
1898...	65.4	−0.1	104	24	1.69	−0.63	5	15	11	5	nw.
1899...	65.2	−0.3	97	32	2.83	+0.51	6	15	11	5	se.
1900...	70.4	+5.1	114	33	5.06	+2.74	10	14	11	6	se.
1901...	66.9	+1.4	100	32	1.77	−0.55	6	18	8	5	nw.
1902...	64.3	−1.2	96	26	2.30	−0.02	8	16	9	6	s.
1903...	63.7	−1.8	103	35	4.68	+2.36	10	13	7	11	se.
1904...	63.3	−2.2	102	31	1.67	−0.65	6	17	7	7	nw.
1905...	67.5	+2.0	107	34	2.62	+0.30	7	17	8	6	nw.
1906...	66.3	+0.8	105	31	1.90	−0.42	7	17	6	8	se.
1907...	64.5	−1.0	104	26	1.89	−0.43	6	18	9	4	nw.
1908...	63.2	−2.3	104	25	2.28	−0.04	7	17	8	6	nw.
1909...	69.8	+4.3	109	27	2.25	−0.07	6	18	9	4	se.
1910...	63.1	−2.4	109	24	1.41	−0.91	5	14	8	9	nw.
1911...	62.2	−3.3	98	23	3.55	+1.23	8	12	11	8	nw.
1912...	63.4	−2.1	118	32	2.95	+0.63	10	11	10	10	nw.
1913...	68.9	+3.4	106	30	2.62	+0.30	6	16	10	5	nw.
1914...	64.2	−1.3	101	26	2.18	−0.14	7	13	11	7	nw.
1915...	64.4	−1.1	100	19	1.18	−1.14	4	19	8	4	se.

Climatological Data for August, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	64.6	−1.6	[a]93	13	32	26	[a]43	0.90	−2.18	0.36	0	3	24	3	4	s.	E. T. Carley
Aplin	Oliver	1,900	8	[a]65.2	.....	[a]96	31	[a]31	29	[a]46	1.74	.....	1.30	0	6	.....	.....	.....	s.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	63.0	−3.1	87	31	34	24	47	3.18	+0.85	1.46	0	4	17	9	5	se.	R. C. Miles
Beach	Golden Valley	2,576	9	64.8	.....	95	31	36	28	46	1.40	.....	1.01	0	2	18	11	2	se.	D. J. Steiner
Berthold Agency†‡	McLean	2,082	21	66.0	−2.1	96	31	33	24	51	0.75	−0.98	0.35	0	4	23	7	1	se.	C. L. Hall
Bismarck	Burleigh	1,674	41	65.2	−2.9	92	31	37	24	39	3.44	+1.46	3.02	0	5	20	7	4	e.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	66.2	+3.1	94	† 6	30	24	49	0.47	−1.50	0.26	0	4	18	9	4	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	65.0	.....	95	31	34	26	46	1.13	.....	0.80	0	5	22	2	7	.....	G. H. Phelps
Bowman	Bowman	.....	1	64.4	.....	95	31	35	24	47	1.00	.....	0.48	0	4	16	0	15	.....	L. S. Diehl
Buford	Williams	1,944	36	67.6	+0.7	95	31	38	29	43	0.34	−0.98	0.27	0	2	20	10	1	e.	P. Elmore
Cando	Towner	1,488	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	3	62.4	.....	95	31	30	29	53	1.02	.....	0.70	0	4	22	6	3	s.	D. L. Basquin
Colgate	Steele	1,177	1	63.4	.....	91	†13	27	26	52	0.49	.....	0.18	0	3	27	1	3	n.	H. P. Rice
Crosby	Divide	1,954	8	[a]67.0	.....	[a]91	31	[a]39	† 2	[a]38	0.65	.....	0.35	0	2	.....	.....	.....	sw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	64.6	−0.5	90	31	31	26	24	0.90	−1.86	0.41	0	6	17	11	3	sw.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	63.6	−3.0	96	31	30	24	51	0.45	−1.57	0.24	0	4	11	17	3	sw.	L. R. Waldron
Donnybrook	Ward	1,760	16	63.6	−1.3	[a]91	31	31	26	[a]42	0.79	−1.55	0.50	0	5	22	8	1	s.	Geo. Michel
Dunseith	Rolette	1,682	19	63.8	+0.3	92	31	30	24	43	1.20	−1.03	1.05	0	3	11	15	5	n.	J. G. Lamont
Eckman	Bottineau	.....	10	63.9	.....	95	31	25	26	50	0.54	.....	0.36	0	4	21	8	2	s.	J. Nussbaum
Edgeley	LaMoure	1,468	14	64.2	−2.3	91	31	33	26	41	1.52	−0.83	0.46	0	5	7	15	9	ne.	O. A. Thompson
Energy†‡	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.28	0	6	20	9	2	s.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	1.55	.....	0.90	0	5	24	5	2	w.	M. E. Uggen
Fessenden	Wells	1,610	3	62.6	.....	90	31	26	26	48	1.25	.....	0.64	0	5	27	3	1	nw.	G. T. Seymour
Forman	Sargent	1,249	23	66.2	−1.4	90	†13	40	†26	40	2.34	−0.63	1.52	0	3	16	8	7	nw.	A. Maltby
Fullerton	Dickey	1,439	17	64.2	−1.9	87	†10	37	24	39	2.04	−0.88	1.25	0	3	18	7	6	s.	F. O. Alin
Garrison	McLean	1,901	20	63.4	−2.4	93	31	32	†24	51	1.06	−0.83	0.48	0	5	21	6	4	se.	G. L. Robinson
Goodall	McKenzie	2,200	1	66.4	.....	94	31	37	24	44	0.38	.....	0.25	0	2	22	3	6	nw.	C. H. Layman
Grafton	Walsh	827	23	64.6	+0.3	92	†12	27	26	49	1.94	−0.76	0.69	0	6	17	11	3	nw	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	62.5	.....	88	†15	35	†26	40	0.75	.....	0.45	0	4	20	8	3	nw.	G. H. Leick
Granville	McHenry	1,504	8	63.8	.....	94	31	30	28	45	1.31	.....	0.62	0	3	.....	.....	.....	nw.	W. A. Christianson
Hannah	Cavalier	1,568	10	61.4	.....	94	31	23	25	48	1.47	.....	0.67	0	6	16	9	6	nw.	J. Moffatt
Hansboro	Towner	1,597	7	63.8	.....	93	†13	27	26	52	0.90	.....	0.35	0	4	6	23	2	sw.	C. E. Blackorby
Hettinger	Adams	2,253	7	63.2	.....	94	31	34	29	51	1.59	.....	0.58	0	6	17	4	10	se.	A. J. Ogaard
Hillsboro	Traill	901	9	65.9	.....	90	†13	34	26	40	1.34	.....	0.80	0	5	22	5	4	nw.	F. E. Mayall
Howard	Williams	2,275	6	65.0	.....	92	30	36	2	45	0.27	.....	0.25	0	2	13	12	6	se.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	64.9	−1.3	95	16	36	26	45	0.78	−1.93	0.33	0	5	22	4	5	s.	T. Pettigrew
Lakota	Nelson	1,579	14	62.0	−1.0	93	13	28	26	49	2.35	−0.12	1.90	0	4	13	15	3	ne.	C. R. Pettes
Lamoine	Kidder	1,936	7	61.8	.....	87	31	31	26	42	3.10	.....	2.08	0	2	23	4	4	sw.	E. V. Virgin
Langdon	Cavalier	1,615	19	62.9	.....	92	†11	32	29	44	1.64	.....	0.71	0	5	22	2	7	.....	R. T. Burke
Larimore	Grand Forks	1,134	20	65.0	+1.0	91	31	30	26	43	0.23	−2.75	0.13	0	3	24	3	4	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	65.8	−0.3	90	†10	37	29	43	0.78	−1.14	0.32	0	3	23	4	4	ne.	W. S. Adams
McHenry	Foster	1,509	5	64.1	.....	94	12	30	†24	44	0.37	.....	0.21	0	3	24	4	3	ne.	P. E. Truden
McKinney	Renville	1,640	21	64.3	+0.9	100	31	32	26	58	0.70	−0.87	0.30	0	3	20	11	0	se.	N. P. Swenson
McLeod	Ransom	1,075	3	66.0	.....	97	13	37	29	43	1.34	.....	0.44	0	4	20	7	4	ne.	E. W. Griggs
Maddock	Benson	.....	.....	64.3	.....	92	31	27	26	47	1.45	.....	1.21	0	4	20	0	11	sw.	W. M. Jackson
Mandan	Morton	1,644	1	65.0	.....	87	6	36	24	36	3.53	.....	2.90	0	4	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	63.8	+0.1	91	31	26	26	48	1.52	−0.90	1.13	0	5	24	2	5	sw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	0.99	.....	0.60	0	2	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	64.5	.....	94	31	35	24	48	1.35	.....	0.82	0	4	14	11	6	se.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	61.3	.....	90	31	29	†24	46	1.15	.....	0.76	0	4	15	13	3	sw.	H. H. McCumber
Mayville	Traill	975	19	64.8	−1.2	92	13	30	26	55	1.02	−2.21	0.80	0	3	23	4	4	nw.	W. C. Gould
Melville	Foster	1,590	17	[d]64.8	−1.3	[d]91	31	[d]31	26	[d]44	0.75	−1.40	0.60	0	3	.....	.....	.....	sw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	1.24	.....	0.60	0	4	24	3	4	n.	Hj. Edman
Minot	Ward	1,557	19	62.8	+0.6	96	31	26	26	52	1.32	−0.92	0.60	0	6	9	16	6	nw.	W. I. Faris
Minto	Walsh	820	22	65.8	+1.2	92	†12	28	26	49	1.21	−1.43	0.39	0	3	19	5	7	se.	C. M. Evans
Mott	Hettinger	2,424	8	64.2	.....	96	31	30	24	44	0.45	.....	0.25	0	3	19	7	5	se.	O. H. Opland
Napoleon	Logan	1,955	23	63.4	−2.8	91	†13	30	24	50	2.54	+0.03	0.85	0	7	10	9	12	se.	C. J. Hoof
New England	Hettinger	2,400	21	65.0	−1.4	92	31	36	†24	45	2.04	+0.14	1.63	0	3	19	7	5	se.	J. M. Connolly
New Rockford	Eddy	1,531	4	62.2	.....	90	16	19	26	57	1.14	.....	0.62	0	3	22	8	1	se.	H. H. Maxwell
New Salem	Morton	2,163	10	64.2	−2.4	95	31	32	26	49	1.34	−0.48	1.19	0	3	14	9	8	ne.	J. Christiansen
Orange†‡	Adams	2,586	6	63.0	.....	92	31	32	29	47	1.40	.....	0.73	0	4	18	9	4	se.	J. E. Goforth
Oriska	Barnes	1,270	10	65.3	−0.1	92	13	31	26	43	1.40	−1.25	0.83	0	4	21	8	2	ne.	J. J. Taylor
Park River	Walsh	998	11	65.9	+0.3	93	31	28	26	42	0.69	−1.97	0.27	0	6	21	2	8	s.	F. A. McCray
Pembina	Pembina	789	41	65.9	+2.0	98	14	29	26	43	0.12	−2.26	0.10	0	2	20	6	5	sw.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.41	.....	0.26	0	2	25	5	1	s.	J. A. Johnson
Power	Richland	1,020	23	64.3	−2.2	90	13	35	26	43	2.39	−0.09	1.20	0	4	23	6	2	ne.	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.40	0	2	25	4	2	ne.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.30	0	3	13	12	6	se.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. A. Wales
Steele	Kidder	1,857	18	[a]65.6	−0.7	85	† 9	[b]34	25	[b]35	2.58	+0.30	0.95	0	7	14	14	3	.....	H. S. Wood
Towner	McHenry	1,482	13	66.1	+2.1	96	31	29	26	49	0.24	−2.13	0.24	0	1	15	13	3	sw.	B. Bagley
Turtle Lake	McLean	1,899	3	65.6	.....	92	31	33	26	47	2.05	.....	0.80	0	5	20	8	3	s.	E. J. Jones
University	Grand Forks	830	23	64.3	−0.5	92	31	35	29	38	0.07	−2.56	0.07	0	1	23	7	1	se.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Lyman
Walhalla	Pembina	966	8	[b]67.8	.....	[b]99	14	[b]27	26	[b]50	0.80	.....	0.77	0	2	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	17	[a]66.2	−1.1	[a]96	31	[a]37	29	[a]45	1.08	−0.09	0.88	0	2	.....	.....	.....	se.	A. Wacker
Westhope	Bottineau	1,508	9	65.8	.....	93	† 9	32	25	48	1.20	.....	0.98	0	5	25	6	0	se.	C. M. Condit
Williston	Williams	1,875	36	66.8	−1.1	93	31	39	2	40	0.54	−0.77	0.27	0	4	17	11	3	se.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	60.4	−3.4	89	†10	26	26	52	1.68	−0.27	0.65	0	5	12	17	2	se.	M. A. Ostby
Zap	Mercer	1,800	2	64.4	.....	96	31	34	†24	48	1.26	.....	0.77	0	6	15	13	3	se.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	65.2	−0.7	89	14	36	26	40	1.05	−2.05	0.52	0	4	25	4	2	s.	U. S. Weather Bureau
Averages		.....	.....	64.4	−1.1	100	31	19	26	58	1.18	−1.14	3.02	0	4	19	8	4	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Orange, S. D.

Daily Precipitation for August, 1915.

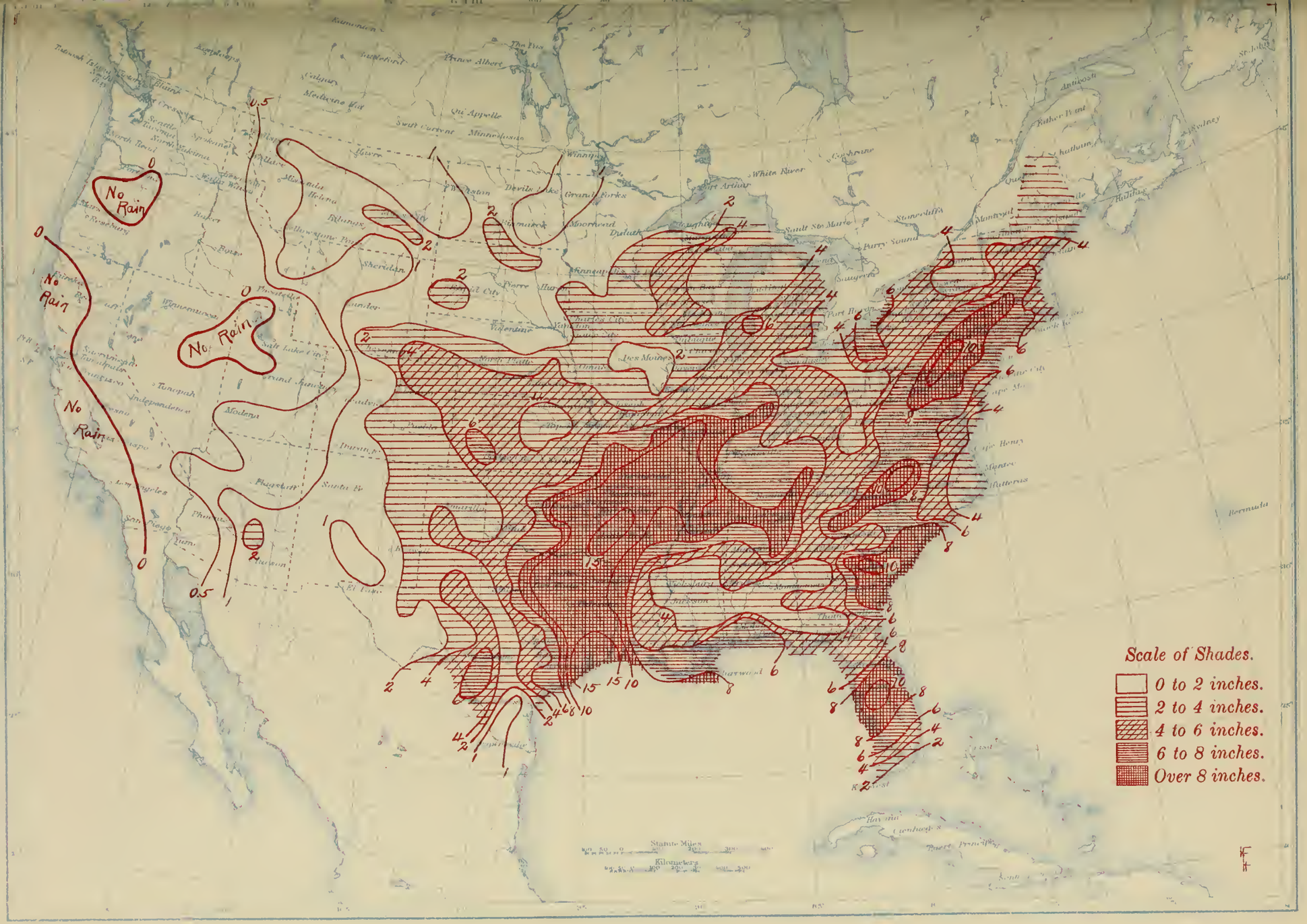
Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red		.36																					.27					T.	.27			0.90
Aplin	Knife	1.30	.25			.06								.06							.06		.01					T.					1.74
Ashley	Missouri	1.03									T.										T.	1.46	.14						.55				3.18
Beach	Lit. Missouri	.39	T.			T.							T.					T.			T.	T.	1.01										1.40
Berthold Agency	Missouri	.15				.04								T.							T.		.21					.35					0.75
Bismarck ***	Missouri	2.92	.12										T.								.30	T.	.02					.08					3.44
Bottineau ‖ ‖	Mouse	.17	.01			T.									T.							T.		.03					.26				0.47
Bowbells ‖ ‖	Mouse	.17				.08										.05					.80								.03				1.13
Bowman	Grand												.22						.48		.25		.05										1.00
Buford	Missouri	.27										.07						T.			T.												0.34
Cando	Sheyenne																																
Carson	Heart	.70	.21										.03					T.	T.		.08												1.02
Colgate	Sheyenne	.13												T.					.18										.18				0.44
Crosby	Mouse					.30							.35	T.							T.							T.					0.65
Devils Lake ***	Sheyenne	.19													.06						T.	.04	.41					.04	.16				0.80
Dickinson	Heart	.09				.05							T.	T.					.07					.24									0.45
Donnybrook	Mouse	.12				.12															.50							.01	.04				0.79
Dunseith	Mouse	T.											T.								1.05	T.	.05	T.	T.			T.	.10	T.			1.20
Eckman	Mouse	.06												.04							.36								.08				0.54
Edgeley	James	.46	.28																		.18		.17						.43				1.52
Energy	Missouri	.28	.17			.20								T.					.08		.18		.13										1.04
Epping	Missouri	.28				.90							.13								.18		.06										1.55
Fessenden ‖ ‖	James	.17	.64				T.					.05				T.								.10					.29				1.25
Forman	Sheyenne	1.52									T.												.29						.53				2.34
Fullerton	James	.72	.07														1.25																2.04
Garrison	Missouri	.25												T.			.48				.04		.28					.01					1.06
Goodall	Missouri	.25																										.13					0.38
Grafton ‖ ‖	Red	.28													.41	.12						.09		.69					.35				1.94
Grand Rapids	James	.45													.05							T.	.10						.15				0.75
Granville	Mouse	.62												T.							.35							.34					1.31
Hannah	Pembina	.08										.11	.36	T.	.07						.18		T.					.67					1.47
Hansboro	Red	.15												.10									.30						.35				0.90
Hettinger	Grand	.58	.34														.03		.45	.04			.15										1.59
Hillsboro	Red	.01	.19												.28								.80						.06				1.34
Howard	Missouri	T.				.25						T.	.02	T.						T.	T.							T.			T.		0.27
Jamestown ‖ ‖	James		.27									.10											.05						.33	.03			0.78
Lakota	Sheyenne	.12													.27							T.	1.90	T.					.06				2.35
Lamoine	Missouri	2.08																			1.02							T.	T.				3.10
Langdon ‖ ‖	Pembina	.05												T.		.28							.45	.71					.15				1.64
Larimore ‖ ‖	Red		.03																					.13					T.	.07			0.23
Lisbon ‖ ‖	Sheyenne		.32												.16									.30					T.	T.			0.78
McHenry	James	.21										.07	.06										.03					T.					0.37
McKinney	Mouse	.30				.15															.25												0.70
McLeod	Sheyenne	.15	.44																				.35						.40				1.34
Maddock	Sheyenne	1.21	.03			.02																							.19				1.45
Mandan	Missouri	2.90	.25																			.27		T.					.11				3.33
Manfred	Sheyenne	1.13	.04			T.					.26		T.	.03	T.								T.					T.	.06				1.52
Manning	Knife																		.60				.39										0.99
Marmarth	Lit. Missouri	.82	.01												.14			T.	.38														1.35
Marstonmoor	James	.18	T.								T.	T.	T.		T.		.76				.06	T.	T.						.15				1.15
Mayville	Red	.05													.80								.17										1.02
Melville	James	.12										T.			.60							.03							T.				0.75
Milnor	Red	.33	.23																				.60						.08				1.24
Minot ‖ ‖	Mouse	.60	.21			.35															.05	.08							.03				1.32
Minto	Red														.38						T.		.44						.39				1.21
Mott	Cannon Ball	.18				.02													.25		T.												0.45
Napoleon ‖ ‖	Missouri		.38									.36				.02		.32					.10		.51				.85				2.54
New England	Cannon Ball		.25										.16						1.63														2.04
New Rockford	James	.50					.62																				.0						1.14
New Salem	Heart	1.19				T.								.13							T.	T.	T.					T.	.02				1.34
Orange	Cannon Ball	.73		.07															.58	.02													1.40
Oriska	Sheyenne	.33	.17												T.							.07	.83	T.										1.40
Park River	Red	.02									T.		.18		.15						.01		.06						.27				0.69
Pembina ‖ ‖	Red	.10					T.									T.							.02										0.12
Plaza	Missouri	.26																.12															0.41
Power	Sheyenne	.15																				.01	1.03						1.20				2.39
Powers Lake	Missouri					.40															.04							T.					0.44
Ranger	Lit. Missouri	T.	T.										T.				.03		.27		T.		.30										0.60
St. John	Mouse																																
Steele	Missouri	.40	.18												T.			T.			.83	.13	.05					.95	.04				2.58
Towner	Mouse	.24				T.																											0.24
Turtle Lake	Missouri	.40													.10						.60		.15						.80				2.05
University	Red													T.	T.														.07				0.07
Van Hook	Missouri																																
Walhalla	Red		.41									.08											.36						.25				1.10
Walhalla	Pembina												T.	.03									.77										0.80
Washburn	Missouri	.88																			T.		.20										1.08
Westhope	Mouse	.03												.07	.07								.05				T.		.98				1.20
Williston ***	Missouri	.10				T.						.14	.03	T.							.27	T.		T.				T.					0.54
Willow City	Mouse	.20				T.									.65						.30		.06					T.	.47				1.68
Zap	Knife	.77	.04			.05								.15							.01		.24					T.					1.26
Moorhead, Minn ***	Red	.35	.01											T.									.53						.16				1.05

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	84	70	73	80	81	86	84	86	88	90	88	88	93	92	91	85	77	79	82	87	89	77	67	75	65	72	78	71	70	81	—	[a]81.0
	Minimum	44	46	50	43	45	51	55	52	56	54	53	53	53	54	53	57	52	46	43	47	48	56	62	44	44	32	35	51	36	44	47	48.3
Aplin	Maximum	78	70	—	76	84	80	83	85	86	84	83	84	86	82	86	82	79	73	77	80	78	80	67	76	64	75	80	73	71	88	96	79.5
	Minimum	52	50	—	54	54	48	48	52	50	50	52	57	58	48	54	50	60	60	58	58	54	55	48	32	43	40	52	55	31	50	50	50.8
Ashley	Maximum	73	62	77	72	85	80	78	80	83	83	84	83	85	85	86	81	86	72	75	82	80	78	61	71	66	72	75	70	66	79	87	77.0
	Minimum	57	50	42	38	43	58	50	48	51	56	52	49	54	52	47	50	56	53	55	57	51	53	50	34	42	40	50	56	37	42	50	49.1
Beach	Maximum	78	65	71	81	87	81	82	80	82	85	83	88	82	84	84	83	80	71	78	80	79	78	63	80	65	74	83	71	80	90	95	79.5
	Minimum	51	49	47	49	55	56	49	50	51	52	50	46	50	48	50	54	57	60	58	60	50	51	45	39	46	40	51	36	50	56	49	50.2
Berthold Agency	Maximum	67	73	76	79	85	89	89	89	89	86	89	89	91	92	92	88	81	80	82	83	81	82	69	79	77	78	78	71	76	90	96	82.8
	Minimum	52	51	45	42	55	47	47	49	51	48	52	50	54	50	48	48	59	58	56	57	54	55	49	33	42	34	50	52	35	54	45	49.1
Bismarck	Maximum	62	66	72	75	87	82	81	85	85	85	83	83	85	85	86	84	77	74	77	80	80	78	61	76	64	73	77	70	70	86	92	78.1
	Minimum	56	56	44	46	52	56	53	52	55	56	58	59	59	57	56	54	61	58	58	60	57	55	45	37	46	37	53	50	40	48	53	52.3
Bottineau §§	Maximum	64	77	77	81	94	91	85	89	93	91	91	91	92	91	90	75	80	82	85	87	81	83	64	79	61	74	81	73	72	92	94	82.6
	Minimum	50	47	45	42	51	58	51	52	51	53	51	57	57	55	55	60	54	55	53	54	60	57	50	30	39	35	39	52	35	44	48	49.7
Bowbells §§	Maximum	65	71	72	81	89	88	89	88	89	88	91	91	91	89	88	80	82	84	81	82	83	80	81	81	61	78	76	76	76	92	95	82.5
	Minimum	45	34	41	40	49	46	48	51	49	52	53	51	51	51	53	52	51	53	50	57	53	50	51	35	40	34	41	46	36	53	55	47.5
Carson	Maximum	67	68	70	74	83	80	82	81	83	82	80	81	82	82	83	80	73	70	72	80	76	77	68	72	66	72	78	72	70	83	95	76.8
	Minimum	56	52	42	43	50	50	48	47	48	47	48	53	56	48	48	48	60	60	58	55	52	48	46	32	36	36	46	57	30	48	40	48.0
Crosby	Maximum	—	69	74	84	87	87	89	90	89	89	88	85	89	88	90	89	81	80	80	81	73	83	70	77	69	78	81	70	75	89	91	[a]82.2
	Minimum	—	39	44	49	60	49	55	54	56	56	59	59	56	59	57	51	52	60	54	57	56	52	49	39	43	42	52	46	42	51	56	[a]51.8
Devils Lake	Maximum	60	71	73	78	90	87	80	85	87	88	89	89	89	82	86	80	77	79	82	84	82	83	59	75	61	72	80	67	69	88	90	79.4
	Minimum	51	45	40	45	53	56	47	48	52	58	62	59	58	58	54	56	55	50	51	58	61	57	41	32	35	31	52	42	35	52	51	49.8
Dickinson	Maximum	68	66	70	77	85	86	81	83	83	81	82	83	81	82	82	80	81	71	75	80	73	78	72	76	66	74	82	74	74	88	96	78.4
	Minimum	52	49	46	44	49	52	48	50	49	47	53	51	53	48	48	54	59	62	60	53	52	53	47	30	43	36	50	52	32	45	45	48.8
Donnybrook	Maximum	72	70	71	75	84	84	82	84	84	84	84	83	85	84	85	80	77	80	79	77	70	80	66	76	61	72	74	70	—	88	91	[a]78.4
	Minimum	47	45	42	44	59	48	46	47	49	56	52	53	51	53	50	50	52	54	51	60	54	54	39	34	41	31	53	49	33	53	55	48.9
Dunseith	Maximum	61	72	72	78	90	86	80	85	88	88	88	89	89	86	85	70	78	80	82	83	85	79	65	76	63	69	77	66	69	88	92	79.0
	Minimum	49	45	39	40	47	54	51	50	50	51	64	52	56	56	53	58	50	54	47	52	60	55	42	30	38	36	42	50	34	45	49	48.5
Edgeley	Maximum	73	65	68	73	82	81	79	81	86	87	86	87	88	86	87	87	86	77	77	72	82	78	66	72	71	74	77	72	66	81	91	78.6
	Minimum	55	54	45	43	45	59	53	49	53	56	52	50	55	54	49	52	55	48	49	50	61	53	57	37	48	33	46	58	37	44	49	49.8
Fessenden §§	Maximum	57	70	72	75	85	86	80	84	87	89	87	87	87	84	86	83	77	79	81	81	83	79	57	75	66	74	79	69	72	87	90	79.0
	Minimum	51	45	38	40	46	52	49	46	47	53	54	51	50	52	54	51	55	49	44	49	57	52	48	30	34	26	31	53	52	47	49	46.3
Forman	Maximum	78	68	69	77	84	85	80	84	87	87	87	86	90	87	90	89	82	78	83	84	83	80	67	73	72	74	78	73	68	77	89	80.3
	Minimum	55	56	50	45	44	56	54	53	53	54	55	53	57	57	55	58	54	48	50	56	61	61	54	44	44	40	51	60	40	42	54	53.9
Fullerton	Maximum	66	66	68	73	84	82	81	82	84	87	84	87	86	87	81	85	74	75	78	81	79	83	63	72	66	71	75	72	65	79	87	77.7
	Minimum	56	54	50	41	48	58	52	51	51	56	54	51	56	53	54	54	54	52	49	56	62	56	55	37	44	39	46	52	38	44	48	50.7
Garrison	Maximum	65	71	70	72	72	81	84	85	85	84	83	84	81	82	84	81	78	78	78	79	78	74	73	76	74	76	71	71	70	86	93	77.9
	Minimum	50	49	49	41	52	52	50	50	53	49	49	54	57	51	51	50	56	56	52	57	52	55	55	32	34	34	48	52	32	48	42	48.8
Grafton §§	Maximum	65	75	75	80	90	88	85	86	89	89	91	92	91	84	86	77	78	80	81	85	81	79	60	74	62	70	83	71	67	87	92	80.4
	Minimum	54	48	38	38	41	58	55	52	52	55	55	55	53	54	52	58	48	45	45	52	56	55	52	37	44	27	42	55	36	47	52	48.7
Granville	Maximum	65	70	71	75	83	84	83	83	85	84	85	85	85	84	83	77	80	82	79	80	74	77	62	75	70	67	77	75	69	87	94	78.4
	Minimum	52	47	48	44	53	52	49	49	50	55	45	53	55	56	53	45	55	60	59	58	57	50	42	33	38	33	50	30	42	54	50	49.2
Hannah	Maximum	66	72	74	81	91	86	81	90	93	93	91	90	88	89	85	70	75	77	81	86	74	81	60	50	67	74	81	58	73	84	94	79.2
	Minimum	39	35	32	35	43	49	42	47	46	41	50	48	49	49	50	50	45	48	49	45	56	46	45	38	23	41	45	42	48	45	46	43.6
Hansboro	Maximum	64	74	76	82	91	87	80	85	91	91	91	89	93	85	87	71	82	82	84	87	78	82	65	78	70	73	82	70	70	90	93	81.5
	Minimum	48	36	35	39	39	52	46	48	45	54	55	52	53	53	52	56	52	52	44	54	55	54	48	30	38	27	46	36	32	50	47	46.1
Hettinger	Maximum	60	68	70	75	81	69	80	77	78	79	81	80	83	83	82	84	77	71	75	78	72	77	73	72	67	69	79	71	71	83	94	76.5
	Minimum	52	52	50	46	46	55	48	53	44	47	52	56	58	53	50	52	56	65	60	52	54	52	35	46	43	44	44	53	34	48	43	50.0
Howard	Maximum	67	70	75	88	85	81	87	89	86	90	88	84	85	84	86	85	82	80	83	82	75	81	68	80	65	78	81	72	80	92	91	81.4
	Minimum	45	36	42	46	58	50	57	57	53	51	55	59	52	51	47	40	50	56	55	54	56	49	43	38	43	40	55	44	58	50	50	48.7
Jamestown §§	Maximum	68	70	71	81	86	85	91	89	93	87	88	93	94	88	86	95	76	78	81	83	82	80	62	75	64	75	80	76	70	85	90	81.4
	Minimum	52	53	45	39	43	49	57	49	49	57	52	53	56	57	54	53	50	48	48	49	52	55	52	36	40	36	38	57	38	40	50	48.4
Lakota	Maximum	73	69	73	77	91	77	80	89	88	88	88	89	93	95	86	72	75	75	79	81	77	78	60	70	60	60	77	67	63	83	87	77.7
	Minimum	54	44	44	33	40	56	46	40	49	51	53	51	53	51	50	55	49	46	43	48	48	53	48	37	40	28	43	49	32	47	47	46.4
Lamoine	Maximum	67	64	58	72	75	83	80	80	85	84	83	84	84	85	83	81	76	75	79	79	78	73	65	60	60	71	76	68	68	85	87	76.1
	Minimum	51	48	38	41	40	53	50	48	50	53	52	56	52	56	49	53	54	50	48	53	50	59	46	45	40	31	45	40	32	45	45	47.4
Langdon	Maximum	61	71	72	78	87	82	77	83	89	90	92	85	92	80	85	69	74	79	81	86	78	77	64	72	55	70	82	66	66	84	91	78.0
	Minimum	50	40	39	40	47	54	47	49	54	55	53	51	55	56	54	55	50	50	49	52	58	55	50	34	39	33	40	50	32	40	51	47.8
Larimore §§	Maximum	64	69	73	76	87	84	80	82	87	86	88	86	89	90	82	77	75	79	80	85	80	79	62	71	59	67	81	70	68	85	91	78.5
	Minimum	53	50	46	44	45	60	57	55	60	60	58	56	58	58	56	60	51	47	45	50	60	54	50	40	45	30	40	60	35	50	60	51.4
Lisbon §§	Maximum	78	70	70	78	85	83	82	83	88	90	88	88	89	88	89	88	75	79	83	85	85	83	65	75	65	72	79	74	68	80	90	80.5
	Minimum	56	52	52	48	42	52	54	54	52	56	56	60	60	65	54	59	52	47	45	46	48	59	52	45	50	39	45	55	37	45	50	51.2
McHenry	Maximum	64	69	75	76	85	84	79	86	88	90	92	94	91	83	86	80	78	80	83	85	80	80	62	74	60	74	80	60	70	85	92	79.5
	Minimum	52	48	46	41	48	58	47	50	54	54	53	55	52	53	54	56	53	56	49	53	52	55	48	30	40	34	48	50	30	45	48	48.7
McKinney	Maximum	67	75	75	65	92	90	89	90	91	93	92	91	93	91	90	83	83	85	84	85	82	85	68	83	72	78	80	74	78	98	100	83.9
	Minimum	43	31	37	37	38	37	43	44	43	45	44	50	47	52	45	50	50	51	45	50	60	62	50	33	40	32	52	44	34	40	47	44.7
Manfred	Maximum	75	68	71	76	84	83	78	82	88	88	86	87	85	82	82	81	78	79	80	80	80	80	68	74	62	74	80	68	70	87	91	78.9
	Minimum	52	46	40	40	47	53	50	47	48	55	54	53	53	58	55	53	58	58	47	54	58	53	50	32	38	26	47	55	34	51	49	48.8
Marmarth	Maximum	69	67	71	79	83	80	80	80	82	82	83	84	83	82	82	80	82	80	79	77	77	78	65	75	67	72	83	76	75	86	94	78.5
	Minimum	51	49	47	50	49	57	56	51	53	52	52	52	53	52	54	56	54	54	57	57	54	55	56	44	35	49	44	50	48	38	44	46	50.5
Minot §§	Maximum	57	75	76	81	85	88	86	88	93	87	89	90	89	89	80	81	82	84	84	85	73	83	66	80	70	76	80	73	74	92	96	82.0
	Minimum	45	43	41	40	42	46	42	42	47	48	49	52	47	48	42	48	50	49	46	46	43	52	45	28	37	26	34	48	27	47	50	43.5
Mott	Maximum	62	66	71	78	80	85	87	82	84	82	82	84	85	84	82	85	78	75	78	82	77	78	76	67	73	78	79	80	77	85	96	79.3
	Minimum	50	52	47	51	53	50	56	50	48	51	50	58	53	51	57	56	55	54	57	56	45	47	44	30	34	42	42	44	33	45	57	49.1
Napoleon §§	Maximum	66	65	79	85	88	84	81	85	90	89	85	88	91	90	87	91	87	74	86	87	84	78	61	75	66	78	78	72	72	84	90	81.0
	Minimum	48	51	38	37	38	54	45	41	52	53	50	51	52	50	49	49	50	52	53	51	50	50	48	30	38	35	36	50	36	35	44	45.7
New England	Maximum	77	67	73	79	86	85	81	82	82	83	82	84	84	83	86	82	80	78	78	78	75	72	78	74	71	73	83	92	79.1
	Minimum	50	50	49	44	49	55	49	53	51	51	52	53	57	54	52	54	59	62	61	58	54	50	46	36	39	51	51	52	36	49	47	50.8
New Rockford	Maximum	72	80	78	81	80	77	77	79	80	81	80	79	80	88	89	90	88	84	85	84	85	84	76	77	74	76	78	68	74	86	89	80.7
	Minimum	42	56	44	52	61	49	47	48	49	50	53	51	47	48	42	54	55	42	36	40	47	44	40	24	32	19	35	48	24	38	36	43.6
New Salem	Maximum	72	67	73	72	87	79	85	82	75	81	81	83	84	83	84	85	78	71	76	83	77	88	78	74	70	72	72	71	68	87	95	78.5
	Minimum	52	49	48	48	54	52	57	53	55	52	54	56	58	53	53	54	57	57	56	57	55	49	43	55	44	32	44	48	34	47	46	49.8
Orange	Maximum	64	65	68	80	81	80	82	81	81	80	81	81	86	87	84	82	74	67	73	79	75	75	55	71	69	70	80	71	69	84	92	76.4
	Minimum	54	51	47	47	45	55	49	54	51	50	50	50	50	50	62	56	57	61	59	55	51	50	45	34	43	41	50	38	32	46	51	49.5
Oriska	Maximum	76	69	71	76	86	84	80	85	87	87	88	89	92	90	91	90	72	77	81	87	86	81	64	71	68	70	87	72	68	81	88	80.5
	Minimum	51	51	47	43	47	58	53	53	55	55	51	51	55	58	54	51	52	56	41	49	59	59	51	40	43	31	44	58	38	48	52	50.1
Park River	Maximum	66	71	70	78	90	85	81	84	85	88	90	90	91	81	86	75	75	77	80	86	79	81	70	74	63	70	85	80	72	87	93	80.1
	Minimum	53	47	39	41	49	64	55	54	54	57	60	57	56	58	56	57	50	45	51	60	56	57	53	37	46	28	52	60	35	60	57	51.7
Pembina §§	Maximum	74	74	79	81	89	82	82	84	91	92	93	96	98	88	91	72	82	81	81	88	84	81	58	76	61	71	81	78	71	82	94	81.8
	Minimum	49	51	42	41	46	55	48	51	54	58	61	59	52	56	58	56	48	49	48	51	54	54	52	36	41	29	47	51	42	46	56	50.0
Power	Maximum	70	69	70	75	82	85	83	85	87	85	85	84	90	89	89	87	72	76	79	83	86	79	70	70	65	68	79	70	73	77	89	79.1
	Minimum	53	55	50	42	43	60	52	51	53	53	55	53	54	53	55	56	52	43	46	48	46	55	53	45	45	35	49	50	45	40	46	49.5
Towner	Maximum	83	73	75	79	88	88	87	88	91	90	90	89	90	88	87	81	81	82	83	84	81	82	80	79	76	76	82	74	73	92	96	83.5
	Minimum	51	43	42	41	52	51	48	47	49	52	53	52	54	54	49	55	56	54	50	56	62	58	43	30	40	29	49	53	32	52	52	48.7
Turtle Lake	Maximum	—	66	72	75	80	81	83	84	86	85	84	85	85	88	86	83	76	78	79	78	82	78	71	73	63	72	78	70	69	85	92	[a]78.9
	Minimum	—	52	44	46	50	53	53	51	67	60	65	56	55	65	54	54	58	57	57	60	57	57	50	35	44	33	50	51	45	48	45	[a]52.4
University	Maximum	67	70	70	77	85	85	82	83	86	87	87	87	90	85	87	76	76	78	80	85	80	77	62	72	62	68	81	70	67	86	92	78.5
	Minimum	56	52	44	43	47	57	53	54	54	56	52	56	56	58	53	57	55	47	46	50	56	56	49	39	44	36	45	45	35	48	54	50.1
Wahpeton §§	Maximum	79	72	70	75	80	85	82	84	85	87	85	86	85	90	92	88	78	80	78	77	79	70	68	65	69	78	64	60	76	80	80	78.2
	Minimum	52	47	41	36	40	50	48	45	52	53	52	50	52	50	50	55	45	43	42	45	43	44	45	36	38	33	41	51	31	35	43	44.8
Washburn	Maximum	68	69	71	75	85	83	85	87	88	86	85	85	87	87	87	—	79	78	80	86	83	81	60	78	65	73	79	71	72	90	96	[a]80.0
	Minimum	54	52	46	46	54	53	52	52	57	54	58	60	59	57	54	—	59	58	56	51	46	59	52	38	47	38	53	55	37	50	51	[a]52.3
Westhope	Maximum	68	75	77	81	92	87	86	88	93	91	93	92	92	88	87	79	82	85	85	86	78	83	82	77	75	80	82	71	78	92	90	83.7
	Minimum	48	44	40	42	51	47	47	45	52	50	54	52	54	53	48	56	54	56	52	57	59	41	34	41	32	36	50	51	38	48	50	47.8
Williston	Maximum	61	68	74	87	87	85	88	89	89	89	87	88	86	85	88	84	80	81	82	80	72	81	66	79	64	78	84	71	80	92	93	81.2
	Minimum	50	39	47	52	61	49	53	57	55	54	58	58	54	54	48	55	60	64	56	57	57	55	45	40	48	45	55	47	40	54	57	52.4
Willow City	Maximum	73	60	62	66	69	65	73	76	74	89	88	86	79	84	84	74	72	74	80	80	78	74	65	72	64	78	80	72	73	87	89	75.5
	Minimum	48	44	37	35	45	50	44	43	43	45	48	49	49	50	48	56	52	53	45	43	55	55	42	29	40	26	41	52	46	45	45	45.3

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


No Rain
No Rain
No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEPTEMBER, 1915

BY
EDWIN G. LARSON
ACTING SECTION DIRECTOR

NOV 2 1915
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BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
OCTOBER 18, 1915.

Departure of the Mean Temperature from the Normal, September, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

EDWIN G. LARSON, Acting Section Director.

VOL. XXV. BISMARCK, N. D., SEPTEMBER, 1915. No. 9.

GENERAL SUMMARY.

The weather during September, 1915, was generally unfavorable for crops and all outdoor work, except plowing. On account of the numerous rainy days, threshing, which is usually nearly completed during this month, was only about half done at the end of the month. Some damage to grain in the shock resulted from the continued wet weather, but there was little loss from sprouting on account of generally low day temperatures. The mean temperatures were near the normal or slightly above in the eastern third of the State, and below normal in the rest of the State, the deficiency increasing to about four degrees in the extreme western portion. Killing frosts occurred generally in the northern and western portions of the State during the period from the 10th to the 14th, inclusive, and on the 21st. These frosts were destructive to corn and some late flax, as these crops were very backward on account of the abnormally cool summer. No general killing frosts had occurred in the Red River Valley and in the southeastern portion of the State at the end of the month, but there was much immature corn, which made slow progress on account of the low day temperatures and much cloudy weather. Pastures and ranges were in fine condition during the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.95 inches. The highest was 30.35 inches at Bismarck, Burleigh County, on the 18th; the lowest was 29.50 inches at Devils Lake, Ramsey County, and at University, Grand Forks County, on the 7th.

TEMPERATURE.

The mean temperature for the State was 54.6°, or 1.8° below the normal, and 4.7° lower than the mean for September, 1914. The highest mean reported was 60.2° at Forman, Sargent County; the lowest was 50.2° at Bowbells, Burke County. The highest temperature reported was 104° at Minot, Ward County, on the 1st; the lowest was 23° at McKinney, Renville County, on the 13th. The greatest daily range was 62° at Minot, Ward County, on the 1st, and the greatest monthly range was 79°, also at Minot. The least monthly range was 53° at Moorhead, Minn.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 75.8 per cent, the average at 7 a. m. being 85.0 per cent, and at 7 p. m. 66.6 per cent.

PRECIPITATION.

The average precipitation for the State was 2.39 inches, or 0.77 inch above the normal, and 1.33 inches greater than the average for September, 1914. The greatest monthly amount reported was 5.03 inches at Hannah, Cavalier County; the least was 1.27 inches at Grand Rapids, LaMoure County. The greatest amount recorded in any twenty-four consecutive hours was 1.73 inches at Hannah, Cavalier County, on the 24th. The average number of days with 0.01 inch or more of precipitation was 9. The distribution of precipitation over the State was very uniform. There was a period with frequent showers from the 5th to the 14th, inclusive, followed by widely scattered showers until the 20th. A period of general rains set in on the 24th and lasted until the end of the month. Measureable amounts of snow were reported from seven stations, and traces from eight other stations, all in the northern part of the State. The greatest monthly amount of snowfall was 9.5 inches at Howard, Williams County.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.4 miles. The greatest wind movement was 7,339 miles at Devils Lake, an average of 10.2 miles per hour; the least was 4,560 miles at Williston, an average of 6.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 47 miles per hour from the south at University, Grand Forks County, on the 15th.

SUNSHINE AND CLOUDINESS.

There was a marked deficiency of sunshine; the average number of clear days was 10, partly cloudy 8, and cloudy 12.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.78	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.81	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.24	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.85	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.21	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.34	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.37	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.28	−1.34	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.33	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.39	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.89	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	3.01	+1.39	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.03	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	+0.01	5	16	8	6	sc.
1906...	62.8	+6.4	109	20	1.20	−0.42	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.23	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.51	4	17	7	6	nw.
1909...	59.0	+3.6	93	24	0.86	−0.76	4	16	8	6	sc.
1910...	55.3	−1.1	99	18	1.96	+0.34	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.87	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.06	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.13	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.56	5	16	8	6	sc.
1915...	54.6	−1.8	104	23	2.39	+0.77	9	10	8	12	nw.

Climatological Data for September, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Amenia	Cass	954	19	[b]55.7	−1.6	[d]89	5	31	15	[d]40	1.89	−0.16	0.43	0	7	21	3	6	s.	E. T. Carley
Aplin	Oliver	1,900	8	[d]54.0	.....	[d]92	1	[d]26	13	[d]48	2.46	.....	0.64	0	11	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	56.0	−0.9	87	2	33	21	38	2.52	+1.59	0.63	0	11	16	5	9	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	52.0	.....	96	1	29	14	40	3.02	.....	1.02	0	9	10	10	10	nw.	D. J. Steiner
Berthold Agency††	McLean	2,082	21	53.8	−3.8	93	1	24	21	47	2.32	+0.84	0.69	0	7	12	7	11	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	56.0	−1.1	92	2	32	21	36	1.68	+0.49	0.55	0	9	12	9	9	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	52.4	−3.3	92	4	28	13	39	2.17	+0.38	0.40	0	13	10	5	15	se.	H. F. Steinmeier
Bowbells	Burke	1,958	3	50.2	.....	88	5	24	13	46	2.42	.....	0.42	T.	12	11	4	15	.....	G. H. Phelps
Bowman	Bowman	.....	1	53.9	.....	95	1	28	30	41	1.95	.....	0.95	0	6	15	0	15	.....	L. S. Diehl
Buford	Williams	1,944	36	53.4	−2.4	97	1	27	†13	40	1.86	+0.88	0.67	0.3	7	5	11	14	n.	P. Elmore
Cando	Towner	1,488	14	57.5	+2.1	97	1	29	11	51	4.06	+2.56	0.96	0	14	9	0	21	.....	E. T. Judd
Carson	Morton	.....	3	54.0	.....	92	1	24	21	44	1.94	.....	0.60	0	7	17	5	8	n.	D. L. Basquin
Colgate	Steele	1,177	1	55.8	.....	91	2	[c]33	15	38	2.54	.....	0.65	0	10	17	4	9	n.	H. P. Rice
Crosby	Divide	1,954	8	[a]51.6	.....	[a]85	5	[a]27	13	[a]45	1.68	.....	0.50	2.0	4	9	9	12	ne.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	55.0	−0.6	96	2	33	26	36	3.11	+1.72	1.07	T.	15	6	7	17	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	52.8	−2.8	97	1	26	21	44	2.23	+1.14	0.52	0	9	2	18	10	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	51.4	−3.4	85	4	25	13	39	2.19	+0.17	0.42	0	11	7	13	10	nw.	Geo. Michel
Dunseith	Rolette	1,682	19	50.8	−4.0	89	4	27	13	44	3.30	+1.65	0.75	T.	15	3	16	11	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	53.0	.....	95	1	24	13	48	2.55	.....	0.95	0	12	4	14	12	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	14	56.7	−0.9	90	2	33	15	44	2.23	+0.32	0.64	0	10	7	10	13	s.	O. A. Thompson
Energy ††	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.49	0	6	7	12	11	nw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.41	4.0	8	8	11	11	e.	M. E. Uggen
Fessenden	Wells	1,610	3	54.0	.....	94	2	29	21	41	3.17	.....	0.62	0	11	12	7	11	nw.	G. T. Seymour
Forman	Sargent	1,249	23	60.2	+1.1	92	† 1	32	21	40	2.59	+0.77	0.58	0	10	13	5	12	sw.	A. Maltby
Fullerton	Dickey	1,439	17	56.4	0.0	87	† 1	34	21	37	2.21	−0.08	0.46	0	8	14	7	9	s.	F. O. Alin
Garrison	McLean	1,901	20	52.8	−4.1	90	1	28	†13	51	2.66	+1.31	0.74	0	9	.....	.....	.....	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	54.0	.....	96	1	26	13	39	1.71	.....	0.38	0	7	10	7	13	nw.	C. H. Layman
Grafton	Walsh	827	23	55.2	−0.7	95	2	30	15	42	1.45	−0.46	0.60	0	12	15	5	10	se.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	56.5	.....	93	2	33	15	43	1.27	.....	0.47	0	4	16	5	9	nw.	G. H. Leick
Granville	McHenry	1,504	8	[g]52.6	.....	[g]89	....	[g]28	13	[b]34	2.85	.....	1.09	0	7	.....	.....	.....	.....	W. A. Christianson
Hannah	Cavalier	1,568	10	53.0	.....	96	2	25	11	51	5.03	.....	1.73	T.	11	6	11	13	nw.	J. Moffatt
Hansboro	Towner	1,597	7	52.8	.....	96	2	28	†11	51	4.52	.....	1.10	T.	15	2	18	10	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	53.0	.....	92	1	26	30	50	2.01	.....	0.54	0	9	11	5	14	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	58.7	.....	91	2	37	†15	35	3.16	.....	0.77	0	12	11	11	8	nw.	F. E. Mayall
Howard	Williams	2,275	6	50.4	.....	90	1	24	13	39	1.63	.....	0.60	9.5	9	2	9	19	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	56.9	+0.2	91	† 1	34	†13	41	2.34	+0.80	0.78	0	8	10	7	13	sw.	T. Pettigrew
Lakota	Nelson	1,579	14	[a]53.2	−1.8	[a]91	2	[a]30	21	[a]43	2.10	+1.03	0.67	0	9	6	15	9	sw.	C. R. Pettes
Lamoine	Kidder	1,936	7	[a]53.8	.....	[a]91	2	[a]26	13	[a]44	2.17	.....	.....	0	8	.....	.....	.....	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	53.3	.....	91	5	30	15	44	2.77	.....	1.18	0.5	12	15	2	13	.....	R. T. Burke
Larimore	Grand Forks	1,134	20	55.2	+0.3	90	2	35	26	40	2.29	+0.64	0.75	T.	9	11	10	9	.....	G. G. Graham
Lisbon	Ransom	1,091	11	58.0	+0.4	93	2	32	15	40	2.46	+0.38	0.50	0	8	13	5	12	sw.	W. S. Adams
McHenry	Foster	1,509	5	55.2	.....	92	2	31	†11	39	3.94	.....	1.56	0	8	16	4	10	nw.	P. E. Truden
McKinney	Renville	1,640	21	53.0	−0.7	98	1	23	13	53	2.66	+1.04	0.70	0	8	2	17	11	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	58.8	.....	90	† 2	33	†15	40	1.68	.....	0.25	0	9	8	15	7	se.	E. W. Griggs
Maddock	Benson	.....	.....	55.5	.....	95	2	30	11	38	2.88	.....	1.03	0	18	14	0	16	w.	W. M. Jackson
Mandan	Morton	1,644	1	55.8	.....	92	2	34	21	38	1.41	.....	0.46	0	10	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	55.4	−0.2	90	1	32	11	38	2.65	+1.22	0.97	0	11	13	7	10	nw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	2.17	.....	0.85	0	4	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	52.6	.....	93	1	27	†14	43	1.72	.....	0.60	0	9	9	6	15	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	54.2	.....	92	2	24	21	48	1.85	.....	0.45	0	9	13	8	9	nw.	H. H. McCumber
Mayville	Traill	975	19	59.2	+2.7	93	† 2	36	15	49	3.72	+1.16	1.47	0	10	14	4	12	nw.	W. C. Gould
Melville	Foster	1,590	17	56.5	+0.3	95	2	35	†11	38	2.47	+1.13	0.96	0	6	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	2.28	.....	0.58	0	7	14	6	10	s.	Hj. Edman
Minot	Ward	1,557	19	52.8	−4.2	104	1	25	13	62	2.45	+0.79	0.65	0	12	6	13	11	sw.	W. I. Faris
Minto	Walsh	820	22	56.6	+0.2	94	2	32	15	41	1.59	−0.52	0.58	0	11	11	9	10	.....	C. M. Evans
Mott	Hettinger	2,424	8	51.0	.....	95	1	27	19	44	3.19	.....	1.15	0	8	7	9	14	nw.	O. H. Opland
Napoleon	Logan	1,955	23	55.1	−1.8	92	2	32	†15	44	1.97	+0.67	0.60	0	12	13	4	13	s.	C. J. Hoof
New England	Hettinger	2,400	21	53.2	−2.7	94	1	28	21	41	1.75	+0.56	0.72	0	5	11	10	9	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	54.2	−3.6	91	1	30	13	44	2.24	+0.73	0.61	0	7	13	5	12	.....	J. Christiansen
Orange ††	Adams	2,586	6	53.3	.....	91	1	29	†21	55	1.32	.....	0.32	0	6	15	7	8	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	57.4	−1.1	90	2	33	15	43	2.07	+0.53	0.63	0	6	.....	.....	.....	nw.	J. J. Taylor
Park River	Walsh	998	11	56.4	−1.2	97	2	30	15	45	1.38	−0.31	0.58	T.	11	18	2	10	s.	F. A. McCray
Pembina	Pembina	789	41	56.0	+2.4	98	2	32	†11	46	2.84	+0.99	1.04	0	9	13	4	13	e.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.08	.....	0.84	T.	6	17	4	9	nw.	J. A. Johnson
Power	Richland	1,020	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	2.00	.....	0.60	0	7	14	15	11	ne.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	2.07	.....	0.48	0	10	7	10	13	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	4.04	.....	1.00	2.0	13	8	6	16	.....	C. A. Wales
Steele	Kidder	1,857	18	55.6	−1.8	94	2	32	21	35	2.97	+1.77	1.25	0	11	10	13	7	w.	H. S. Wood
Towner	McHenry	1,482	13	54.8	+0.3	94	1	28	13	44	2.72	+0.68	0.92	0	11	4	14	12	w.	B. Bagley
Turtle Lake	McLean	1,899	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Jones
University	Grand Forks	830	23	56.0	0.0	92	2	35	14	35	1.57	−0.43	0.47	0	7	15	6	9	se.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.44	.....	0.52	0	10	5	14	11	nw.	C. R. Lyman
Wahpeton	Richland	962	21	58.4	−0.3	90	5	35	16	42	2.72	+0.64	0.56	0	10	19	0	11	sw.	F. E. Smith
Walhalla	Pembina	966	8	.....	.....	.....	.....	.....	.....	.....	3.39	.....	0.85	0	7	.....	.....	.....	.....	I. DeL. Lee
Washburn	McLean	1,734	17	55.9	−2.2	97	2	32	21	40	2.64	+1.46	0.85	0	9	10	4	16	.....	A. Wacker
Westhope	Bottineau	1,508	9	52.5	.....	92	4	24	21	40	2.06	.....	0.66	0	10	.....	.....	.....	nw.	C. M. Condit
Williston	Williams	1,875	36	52.3	−7.2	94	1	26	13	38	1.60	+0.69	0.44	0.8	10	1	13	16	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	53.2	−1.2	86	2	24	13	38	2.62	+0.86	0.73	0	13	1	18	11	e.	M. A. Ostby
Zap	Mercer	1,800	2	54.4	.....	93	1	26	21	42	2.15	.....	0.58	0	8	8	7	15	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	57.9	+1.3	88	2	35	15	37	1.34	−0.96	0.49	0	8	16	4	10	s.	U. S. Weather Bureau
Averages				54.6	−1.8	104	1	23	13	62	2.39	+0.77	1.73	0.2	9	10	8	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

†† Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for September, 1915.

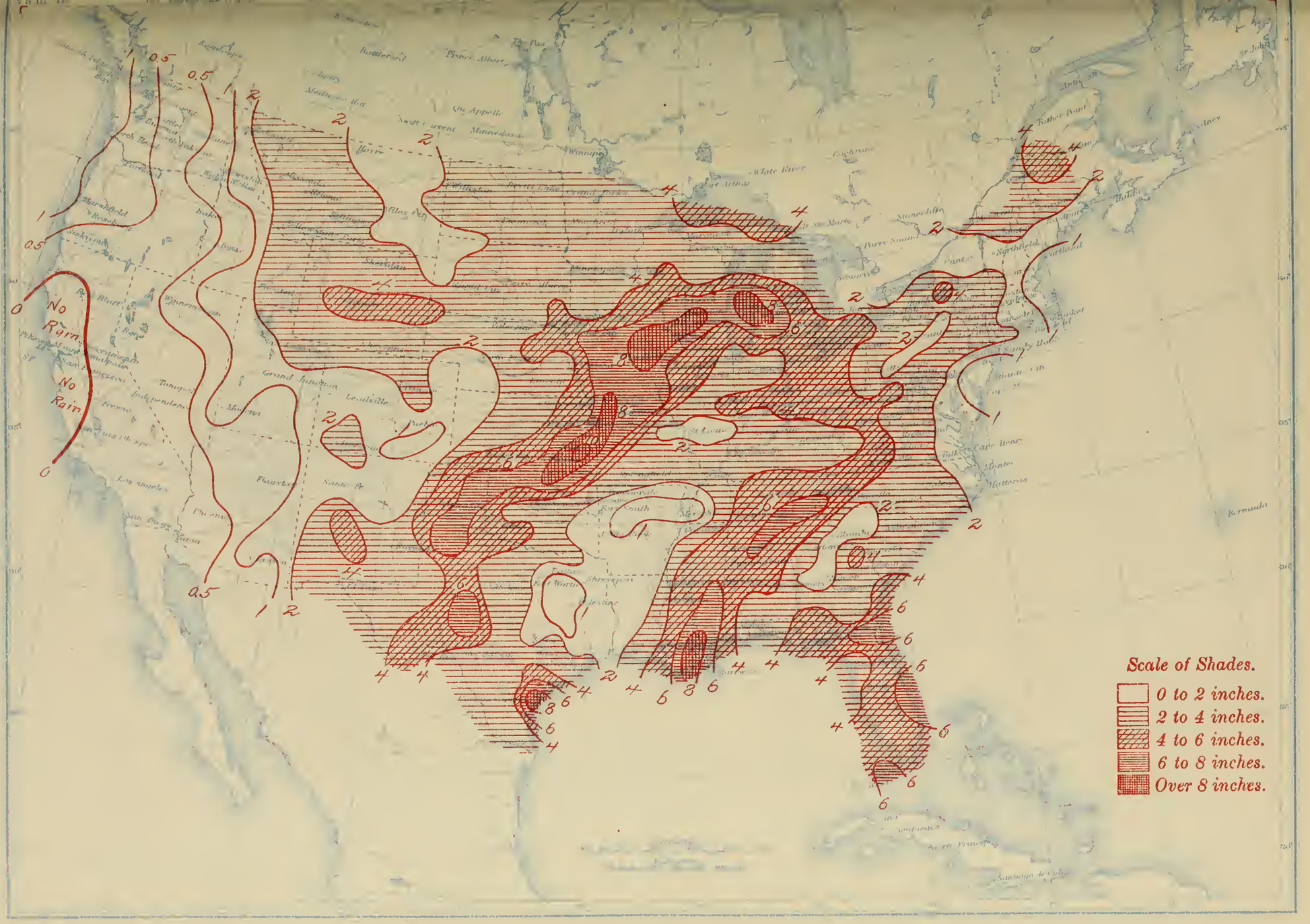
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red								.16		.43		.60	T.	.22	T.			T.		T.					.23	T.	.24	.01	T.			1.89
Aplin	Knife			T.		.22	.02			.03		.59	.16	.16											.64	.01	T.	.50	.12	.01			2.46
Ashley	Missouri								.28	.03	.25	T.	.09	.30	.05										.63	.52	.03	.29	.05				2.52
Beach	Lit. Missouri					1.02		.28	T.	T.		.55	T.	.10	T.		.04								.25		.10	.40	.28				3.02
Berthold Agency	Missouri			T.	T.	.26		T.		T.		.65		.26		.03									.69		T.	.42	T.	.01			2.32
Bismarck ***	Missouri					.07		.02		T.		.39	.04	.44											.11		.28	.27	.06	T.			1.68
Bottineau ‖ ‖	Mouse		T.				.05		.35	.02	.25		.12	.04	.14	T.					.04				T.	.40	T.	.12	.22	.26	.16		2.17
Bowbells ‖ ‖	Mouse						.38		.06		.19		.37		.42	.04					.03					.34		.16	.34	.05	.04		2.42
Bowman	Grand					.10		.05				.95													.45		.35	.05					1.95
Buford	Missouri		T.	T.		T.		.09	.50	T.		.67		.03		T.									.24		T.	.25	.08				1.86
Cando	Sheyenne	.50				.02			.50		.05		.15	.03	.19		.02								.96	.26		.60	.32	.36	.10		4.06
Carson	Heart					.18						.60	.03	.38											.12			.48	.15				1.94
Colgate	Sheyenne								.20		.65	.19	.25		.25						T.				.25	.24		.38	.10	.03			2.54
Crosby	Mouse				T.			.38	T.	T.		T.	.45	.50	T.													T.	.35	T.			1.68
Devils Lake ***	Sheyenne					.26		.34		.09	T.	.22	.03	.17	.02		.02				.05		T.		.98	.09		.52	.19	.12	.01		3.11
Dickinson	Heart		T.			.46					.01	.52	.06	.12											.20			.35	.42	.09	T.		2.23
Donnybrook	Mouse						.42		.09	T.		.17	.38	.11			.10				.03				.35	T.		.20	.28	.06			2.19
Dunseith	Mouse					.25	T.	.08		.20	.08		.24	.19	.04			.04			.14		T.		.75	.10	T.	.40	.30	.19	.30		3.30
Eckman	Mouse						.10			.10		.10	.36	.07	.01		.05								.95	.01		.35	.30	.15	T.		2.55
Edgeley	James							T.	.10		.20	.64	.14		.30	.03									.35	.13		.30	.04				2.23
Energy	Missouri			T.		.35						.41	.09	.25											.49		T.	.28	T.	T.			1.87
Epping	Missouri							.28		.06	.04	.24		.28											.41		.26	.18					1.75
Fessenden ‖ ‖	James						T.	.27	.32		.10		.48		.37										.39	.62		.20	.25	.15	.02		3.17
Forman	Sheyenne										.38	.16	.20	.03	.24			.44							.01	.58		.45		.10			2.59
Fullerton	James								.30			.41	T.	.08	.30	T.		.28							.26	.12	T.	.46		T.			2.21
Garrison	Missouri					.25			T.	.18		.56	.28	.31											.74	T.	T.	.22	.08	.04			2.66
Goodall	Missouri								.28			.30	.25	.15											.25			.38	.10				1.71
Grafton ‖ ‖	Red							.05		.09		.03	.01	.21				.03			.03					.60		.08	.27	.02	.03		1.45
Grand Rapids	James						T.		T.			.47	T.	T.	.30	T.									.20			.30					1.27
Granville	Mouse						.84						.27				.04	T.							1.09	T.	T.	.43	.08	.10			2.85
Hannah	Pembina					.11	.13	1.71		.13			.09	T.	.05			T.	.08		.07				1.73			.52	.41	T.	T.		5.03
Hansboro	Red					.20	.02	.52		.25			.17	.30	.12				.04		.10				1.10	.10		.65	.30	.45	.20		4.52
Hettinger	Grand					.10	.27			T.	.06	.54		.16	T.										.34		.14	.28	.12				2.01
Hillsboro	Red								.20		.51	.01	.36	.26					.77						.27	.09		.53	.10	.03	.02		3.16
Howard	Missouri	T.	T.	T.	T.			.03	.01	T.	T.	*	.56	.60	T.	T.	T.	.01			T.			T.	T.		T.	.27	.14	.01			1.63
Jamestown ‖ ‖	James								T.		.07		.48		.25											.78		.25	.40	.08	.03		2.34
Lakota	Sheyenne						.25	T.	T.	.12	.28	.05	T.	.25		T	T.		T.						.67	T.		.38	.02	.08	T.		2.10
Lamoine	Missouri							*						1.24												*	*	*	*	*	.93		2.17
Langdon ‖	Pembina							.58		.05		.02	.03	.20				.03	T.		.08				1.18	.03	T.	.33	.09	.15			2.77
Larimore ‖ ‖	Red							.27		.07		.25		T.			.19			.02	.10				T.	.60	.04	T.	.75				2.29
Lisbon ‖ ‖	Sheyenne							T.		.50		.27	.42	.23					.18		.14					.32		.40	T.	T.			2.46
McHenry	James						.40		.30		.15		.10								T.		T.		1.56			.95	.33	.15			3.94
McKinney	Mouse						.55		.10				.32		.25						.10				.37		T.	.27			.70		2.66
McLeod	Sheyenne										.20	.20	.18		.25			.16							.14	.20		.25	.10				1.68
Maddock	Sheyenne					.09	.03	.06	.06	.02	.03	.13	.27	.04	.25		.01				.01				1.03	.11		.36	.21	.16	.01		2.88
Mandan ‖ ‖	Missouri					.08	T.		.03			.03	.46	T.							.05				.05	.16	T.	.38	.16	.05	.01		1.41
Manfred	Sheyenne					T.	T.	.19	.07	T.		.28	.15	.17	.15										.97	.09		.33	.12	.13	T.		2.65
Manning	Knife											.85		.41											.24			.67					2.17
Marmarth	Lit. Missouri					T.		.17		.05		.60	.01	T.						T.			T.		.25	.01	.29	.15	.19				1.72
Marstonmoor	James					T.	T.	T.	T.	.06		.23	.20	T.	.38						T.				.30	.10	T.	.45	.10	.03	T.		1.85
Mayville	Red									.25	.21	.37				.28			1.47						.44	.15		.47	.06		.02		3.72
Melville	James					T.				T.				.65	.40										.96	.09		.35		.02			2.47
Milnor	Red										.20	.24	T.	T.	.25		T.	.35		T.					.20	.58		.46	T.				2.28
Minot ‖ ‖	Mouse						.04				.24		.55	.01	.20		.02								.20	.65		.15	.26	.10	.03		2.45
Minto	Red							.12		.02		.10			.20	.03					.05				.58	.10		.32	.05	.02			1.59
Mott	Cannon Ball					1.15						.73		.22											.23		.51	.19	.13		.03		3.19
Napoleon ‖ ‖	Missouri						.10		.03		.01		.31		.60		.03				.01					.35		.20	.25	.06	.02		1.97
New England	Cannon Ball											.72	.08												.48		.18	.29					1.75
New Rockford	James																																
New Salem	Heart			T.		.10		T		.17		.61		.48											.28	T.	T.	.55	.05	T.			2.24
Orange	Cannon Ball					.29						.25		.32											.01		.32		.13				1.32
Oriska	Sheyenne								.20		.23		.63		.21											.40			.40				2.07
Park River	Red		T.						.01		.06	T.	.06		.15			.02			.04				.58	.05	T.	.27	.07	.07	T.		1.38
Pembina ‖	Red								1.04		.02		.04		.08	.02		T.			T.					.68			.44	.42	.10		2.84
Plaza	Missouri								.33		.45														.84			.12	.26	.05			2.05
Power	Sheyenne																																
Powers Lake	Missouri	.02				T.		.03		T.	.50	T.		.30												.60	T.	.45	.10	T.	T.		2.00
Ranger	Lit. Missouri					.44		.06		T.		.48	.05	.04	.03										.33	T.	.35	.20	.09				2.07
St. John	Mouse					.06	.36	.30		.20			.22	.16	.06				.04	.09					1.00			.90	.36	.29			4.04
Steele	Missouri					T.	.01					.27	.22	.55							.02				.10	1.25	T.	.24	.25	.04	.02		2.97
Towner	Mouse					.31		.05					.38	.22	.06		.04				T.				.92	.13		.30	.18	.13			2.72
Turtle Lake	Missouri																																
University	Red							.15		.26		.25	T.		.16			T.		T.					.47			.24	.04	T.	T.		1.57
Van Hook	Missouri					.24	.03			.52		.24	.19	.12											.52			.40	.15	.03			2.44
Wahpeton ‖ ‖	Red										.22		.36	.05	.25	.10			.28		.10					.50	.10	.56	.12	.08			2.72
Walhalla	Pembina						.15		.20						.50										.75	.43			.51		.85		3.39
Washburn	Missouri					.20		.25				.35	.24	.23											.85			.45	.05	.02			2.64
Westhope	Mouse	T.					T.		.04	.16			.18	.06	.02	T.	T.	T.							.66			.43	.30	.19	.02		2.06
Williston ***	Missouri		T.	T.	T.	T.		.14		T.		.39	.05	.26	T.		.02	.04		T.					.39		.04	.19	.08				1.60
Willow City	Mouse					.30	T.	.13			.30		.10	.18	.02		.02		T.		T.				.73	.02		.25	.29	.12	.16		2.62
Zap	Knife					.09	.16					.58	.09	.19											.58			.43	.03	T.			2.15
Moorhead, Minn ***	Red							T.		.11		.49			.20						.01	T.			.11	.04	.05	.27	.06				1.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	–	–	–	–	80	87	80	64	77	68	54	56	60	60	71	72	79	71	79	61	75	70	76	64	63	58	50	59	50	59	..	[d]67.4
	Minimum	52	55	52	52	54	54	54	51	37	42	40	41	44	44	31	43	43	46	43	39	37	39	44	45	49	39	38	39	34	39	..	44.0
Aplin	Maximum	92	–	85	89	77	80	–	82	70	62	54	48	44	57	57	52	81	68	70	52	–	81	–	73	66	47	44	44	45	63	..	[d]66.6
	Minimum	54	–	57	49	55	57	–	41	40	36	36	36	26	44	40	40	45	34	42	34	–	35	–	40	45	36	36	40	38	40	..	[d]41.3
Ashley	Maximum	83	82	85	84	86	79	80	62	74	63	55	51	56	55	71	71	80	76	81	59	66	75	73	67	64	49	50	50	46	61	..	68.0
	Minimum	49	60	50	53	67	58	57	47	42	46	38	41	38	38	39	44	46	40	43	36	33	41	44	47	46	35	39	34	35	36	..	43.9
Beach	Maximum	96	78	66	83	71	84	63	65	66	61	48	48	42	55	70	71	76	72	67	61	70	80	72	61	53	43	42	42	46	69	..	64.0
	Minimum	58	52	50	58	55	55	48	41	38	38	38	36	30	29	38	38	40	34	45	33	30	40	35	47	31	32	34	35	34	31	..	40.1
Berthold Agency	Maximum	93	86	73	88	74	85	76	69	72	62	50	47	42	53	74	72	81	71	71	–	71	81	78	63	51	47	46	45	47	63	..	[a]66.6
	Minimum	49	58	58	53	51	58	53	47	35	36	31	36	26	34	40	41	42	32	33	33	24	38	37	46	44	38	39	39	40	40	..	41.0
Bismarck	Maximum	89	92	80	87	82	82	83	67	75	61	46	51	47	57	75	72	82	67	77	59	68	77	73	58	52	54	46	46	47	62	..	66.8
	Minimum	58	61	58	55	61	60	51	44	39	43	41	38	36	38	43	44	47	40	45	37	32	44	44	48	45	37	40	41	40	43	..	45.1
Bottineau §§	Maximum	88	90	81	92	80	84	83	67	71	60	51	44	45	47	68	67	80	63	70	60	69	70	72	50	52	48	42	45	48	48	..	64.5
	Minimum	53	53	58	59	53	60	55	46	37	37	29	33	28	30	31	39	41	32	32	35	30	33	39	42	42	34	32	32	40	42	..	40.2
Bowbells §§	Maximum	84	81	75	81	88	82	73	73	71	59	46	43	35	50	62	71	78	65	60	62	68	75	71	52	47	41	40	41	47	71	..	63.1
	Minimum	49	55	55	47	51	50	49	43	35	31	27	31	24	28	31	41	43	28	31	29	35	29	36	38	38	33	33	32	32	38	..	37.2
Carson	Maximum	82	88	76	86	78	80	80	65	75	60	56	50	45	60	72	72	80	67	77	58	68	80	72	58	53	47	44	47	46	64	..	66.5
	Minimum	53	56	58	52	52	53	48	44	32	40	40	40	32	32	40	37	42	36	40	39	24	44	36	43	47	36	36	40	38	38	..	41.6
Crosby	Maximum	81	76	68	80	85	83	75	66	64	60	55	41	40	50	–	67	75	75	60	60	66	72	72	65	50	48	45	42	48	64	..	[a]63.2
	Minimum	56	58	50	50	55	60	49	44	36	35	31	32	27	21	–	34	35	30	34	31	34	41	37	43	39	39	36	33	39	38	..	[a]39.9
Devils Lake	Maximum	88	96	80	90	90	85	81	65	71	59	49	51	50	50	74	66	80	63	77	59	68	72	71	50	50	50	43	48	47	51	..	65.8
	Minimum	54	62	58	59	60	56	53	49	45	42	34	36	37	38	39	42	50	38	41	36	37	43	42	43	41	33	34	42	42	42	..	44.3
Dickinson	Maximum	97	84	70	81	81	85	73	65	71	62	47	48	45	56	72	69	79	70	70	59	68	69	69	64	52	46	44	42	45	64	..	64.6
	Minimum	53	57	55	56	54	56	48	43	34	38	38	38	35	28	30	39	40	42	35	44	38	26	39	36	46	43	32	37	39	37	32	41.0
Donnybrook	Maximum	81	79	72	85	81	80	78	66	67	56	48	40	40	47	66	68	77	67	65	60	65	74	70	65	47	45	40	41	46	55	..	62.3
	Minimum	49	55	53	46	53	59	52	45	36	36	32	33	25	33	34	41	48	31	42	32	36	40	36	42	41	34	35	35	38	40	..	40.4
Dunseith	Maximum	84	82	79	89	81	80	78	64	69	60	52	44	45	45	70	64	78	63	70	58	66	68	66	48	48	44	40	43	45	43	..	62.3
	Minimum	57	54	59	60	52	62	55	46	34	36	29	34	27	34	29	30	34	38	40	34	28	30	33	31	31	33	32	36	41	36	..	39.2
Edgeley	Maximum	89	90	89	88	90	85	78	72	73	68	49	52	55	56	72	72	82	75	83	65	68	75	75	65	64	50	50	53	48	59	..	69.7
	Minimum	49	59	53	47	57	52	55	49	41	47	41	41	41	39	41	33	43	42	43	39	39	35	36	46	49	49	36	39	38	37	..	43.7
Fessenden §§	Maximum	89	94	86	90	89	86	81	66	73	62	43	52	50	52	74	69	81	64	78	59	70	75	76	54	50	52	45	49	48	56	..	67.1
	Minimum	51	55	55	53	55	52	51	48	36	40	31	35	34	36	36	34	44	36	38	36	29	34	38	40	44	34	36	37	40	40	..	41.0
Forman	Maximum	92	92	92	91	92	86	83	80	79	73	64	56	61	60	73	75	84	73	82	70	70	73	76	72	65	56	53	57	52	60	..	73.1
	Minimum	58	65	60	55	60	60	60	47	39	50	39	46	44	45	37	50	47	47	46	42	32	45	44	47	53	39	40	40	36	42	..	47.2
Fullerton	Maximum	87	87	85	85	86	81	76	71	74	63	48	53	58	57	70	73	82	65	82	58	65	74	72	67	65	52	50	55	48	58	..	68.2
	Minimum	51	62	55	49	53	54	53	48	37	48	38	43	41	42	35	44	45	44	43	38	34	43	45	56	46	38	39	37	38	40	..	44.6
Garrison	Maximum	90	86	78	78	73	78	79	65	63	60	50	44	42	53	75	80	65	73	–	61	71	80	75	62	50	47	44	43	46	60	..	[a]64.5
	Minimum	52	53	59	50	52	53	51	46	34	36	30	35	28	33	40	52	44	41	–	32	28	29	38	44	46	34	38	39	38	41	..	[a]41.2
Grafton §§	Maximum	85	95	80	90	92	88	85	65	75	63	56	50	55	53	75	63	79	64	74	60	71	73	71	50	51	54	48	54	50	54	..	67.4
	Minimum	54	60	54	48	57	55	55	53	38	45	31	39	40	40	30	41	40	41	43	39	33	38	45	43	43	33	35	34	40	42	..	43.0
Granville	Maximum	82	82	84	85	–	–	–	–	–	–	–	–	45	49	73	68	72	60	65	60	65	70	75	50	60	45	45	43	45	53	..	[b]63.7
	Minimum	52	62	54	60	–	–	–	–	–	–	–	–	28	30	43	41	30	34	42	35	34	36	49	45	44	35	38	40	42	39	..	[b]41.6
Hannah	Maximum	91	96	91	90	88	87	78	69	70	58	59	50	56	46	71	69	76	63	71	65	67	71	69	65	58	59	53	54	52	51	..	68.1
	Minimum	43	45	48	52	49	52	50	48	46	36	25	28	35	32	38	36	35	42	38	31	30	33	35	32	31	30	29	36	38	37	..	38.0
Hansboro	Maximum	85	96	82	92	86	84	80	70	72	60	48	46	47	47	75	76	80	70	70	60	70	68	62	52	46	44	42	48	48	52	..	65.3
	Minimum	45	45	56	50	58	54	58	48	40	38	28	34	28	36	29	38	42	35	43	34	35	34	40	38	38	32	31	38	40	42	..	40.2
Hettinger	Maximum	92	85	71	77	78	78	78	65	73	62	59	54	47	57	71	70	68	68	74	58	68	68	72	71	53	51	41	45	48	65	..	65.6
	Minimum	42	57	56	49	52	53	47	44	36	38	42	35	36	29	37	39	39	37	40	37	27	38	40	38	45	47	37	34	35	26	..	40.4
Howard	Maximum	90	75	72	78	83	86	67	66	62	62	48	46	35	49	63	69	76	64	61	60	68	65	75	69	55	46	43	40	47	64	..	62.8
	Minimum	54	58	53	50	50	52	46	34	32	28	30	30	24	30	38	37	46	25	34	30	29	35	40	45	39	36	34	32	36	34	..	38.0
Jamestown §§	Maximum	91	91	91	81	89	86	87	65	76	65	50	54	53	56	75	72	85	67	84	60	64	75	75	63	53	52	50	50	50	57	..	68.9
	Minimum	52	63	61	57	63	57	57	50	41	46	41	41	34	38	34	44	46	42	43	38	37	38	44	45	46	35	35	38	39	42	..	44.9
Lakota	Maximum	82	91	78	85	86	85	78	60	68	58	50	49	49	48	76	68	67	61	73	–	67	67	70	48	50	49	46	48	45	49	..	[a]63.8
	Minimum	55	62	50	55	60	55	58	49	38	40	32	37	37	35	33	49	43	38	–	35	30	39	40	40	39	33	33	42	40	40	..	[a]42.7
Lamoine	Maximum	88	91	84	87	82	83	84	66	71	–	45	48	44	52	72	75	80	55	76	74	75	68	71	56	56	48	46	45	45	55	..	[a]66.3
	Minimum	58	59	54	55	56	56	53	42	36	–	32	34	26	35	38	36	36	34	42	35	39	35	38	40	42	34	37	40	38	41	..	[a]41.4
Langdon	Maximum	81	94	79	90	91	89	83	62	72	56	50	46	51	51	74	60	80	64	75	58	68	71	63	45	46	47	43	48	47	51	..	64.5
	Minimum	52	57	58	55	61	58	59	49	41	41	31	33	37	39	30	38	43	37	39	35	32	41	39	40	40	32	32	33	40	40	..	42.1
Larimore §§	Maximum	85	90	82	88	90	87	81	61	74	63	54	51	53	53	70	63	80	63	74	58	69	70	71	50	51	52	48	52	49	52	..	66.1
	Minimum	60	60	56	56	59	55	53	50	38	47	38	38	37	38	36	40	40	44	42	37	38	40	45	44	48	35	38	42	38	40	..	44.4
Lisbon §§	Maximum	90	93	90	89	91	88	79	64	78	65	52	57	61	59	72	75	83	83	81	60	70	71	74	66	60	59	52	53	52	54	..	70.7
	Minimum	55	55	58	53	62	53	56	50	40	49	38	39	43	49	32	45	46	46	46	40	34	36	45	47	49	39	40	36	34	41	..	45.2
McHenry	Maximum	80	94	90	89	90	88	84	65	70	60	50	55	50	52	74	66	80	62	75	60	62	74	72	52	57	52	45	50	51	53	..	66.7
	Minimum	54	62	63	53	60	55	54	45	36	43	31	40	35	39	37	40	41	38	55	36	31	38	42	44	42	34	37	43	40	41	..	43.6
McKinney	Maximum	98	91	86	91	87	85	80	74	74	70	55	55	44	51	70	70	81	76	60	64	74	74	73	60	50	54	42	44	50	54	..	67.7
	Minimum	47	55	46	47	34	61	47	46	40	34	32	32	23	32	33	42	47	32	32	33	30	29	35	42	37	35	35	35	38	41	..	38.4
Manfred	Maximum	90	94	87	88	86	85	84	65	74	73	47	52	48	50	74	67	79	72	76	58	67	73	72	63	52	50	45	47	48	55	..	67.3
	Minimum	52	61	56	55	55	55	57	50	38	40	32	37	35	37	38	40	48	37	42	38	33	40	40	45	50	34	34	41	42	43	..	43.5
Marmarth	Maximum	93	79	69	81	76	83	77	62	68	59	46	48	50	57	70	71	77	75	70	59	71	77	72	60	53	44	44	43	50	65	..	65.0
	Minimum	59	54	53	55	54	53	44	41	35	35	40	38	34	27	31	42	40	37	44	34	28	42	38	48	41	34	34	35	31	27	..	40.3
Minot §§	Maximum	104	84	74	92	81	84	83	71	70	64	46	45	43	53	75	72	81	78	76	76	69	71	74	51	49	44	42	44	49	59	..	66.8
	Minimum	42	56	53	48	52	55	48	44	29	34	27	32	25	30	32	34	41	33	33	35	36	37	38	39	44	35	37	39	39	41	..	38.9
Mott	Maximum	95	82	67	76	80	70	72	65	61	56	50	47	52	59	63	75	72	76	66	78	68	56	48	42	40	38	41	57	69	62	..	62.8
	Minimum	63	57	50	51	54	42	46	41	40	38	36	35	33	35	37	44	43	37	27	34	38	33	34	35	29	30	34	31	33	35	..	39.2
Napoleon §§	Maximum	88	92	90	88	88	85	85	66	80	64	48	52	56	57	78	73	81	69	75	58	69	79	78	65	52	48	50	48	46	63	..	69.0
	Minimum	50	52	50	49	51	59	52	45	40	44	41	38	34	35	32	40	41	38	38	35	32	35	35	40	46	34	33	40	38	38	..	41.2
New England	Maximum	94	90	83	82	80	76	74	70	68	62	56	53	50	55	70	72	76	70	65	59	69	80	72	60	58	56	44	44	46	65	..	66.6
	Minimum	55	57	57	54	56	50	42	40	38	38	40	36	33	31	39	40	41	40	38	31	28	39	37	33	33	33	33	39	35	31	..	39.9
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	91	88	71	88	78	81	83	74	74	68	51	51	44	68	74	72	69	68	75	61	66	79	75	45	54	46	43	44	46	71	..	66.6
	Minimum	47	57	55	57	51	55	56	37	37	38	37	38	30	34	40	41	43	38	42	34	34	35	41	34	37	34	38	39	37	51	..	44.9
Orange	Maximum	91	87	75	82	78	80	78	66	74	63	58	54	46	55	72	72	81	78	68	58	84	75	72	58	51	45	46	45	47	64	..	66.8
	Minimum	52	56	57	50	48	48	48	44	35	40	38	38	34	30	36	39	38	35	36	35	29	35	37	48	45	34	34	31	35	29	..	39.8
Oriska	Maximum	85	90	89	87	89	85	77	68	73	63	58	53	58	56	70	71	82	66	81	66	71	70	72	74	70	68	58	54	53	57	..	70.5
	Minimum	56	56	57	53	52	51	52	50	50	41	40	51	42	42	33	43	44	44	38	38	37	36	38	42	42	42	38	40	37	44	..	44.3
Park River	Maximum	86	97	80	90	92	88	84	79	74	70	57	52	53	52	75	69	80	72	74	60	70	71	68	58	51	53	47	52	48	53	..	68.5
	Minimum	56	65	58	52	58	59	57	54	42	46	34	38	37	41	30	41	41	39	39	41	33	36	46	45	45	35	35	42	39	42	..	44.2
Pembina §§	Maximum	89	98	88	89	94	91	89	61	72	61	64	56	59	52	78	58	69	74	68	64	78	68	64	56	48	42	52	58	54	61	..	68.4
	Minimum	51	58	58	51	51	54	55	51	42	41	32	42	41	38	32	41	41	51	42	36	38	41	41	41	41	39	34	41	41	41	..	43.5
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	94	91	81	92	89	80	82	66	71	61	57	49	45	51	74	69	80	73	75	61	69	70	75	66	52	49	46	45	47	50	..	67.1
	Minimum	50	60	60	56	57	60	57	49	39	38	30	36	28	36	38	40	47	33	39	35	32	39	36	44	43	35	36	40	42	42	..	42.6
Turtle Lake	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
University	Maximum	84	92	87	87	90	87	80	63	71	67	55	55	54	53	72	62	79	63	75	59	70	70	72	53	56	54	46	55	50	54	..	67.2
	Minimum	51	64	56	54	61	56	56	46	41	41	36	41	43	35	37	43	45	43	45	40	36	40	42	47	43	38	37	46	40	44	..	44.9
Wahpeton §§	Maximum	81	86	85	87	90	86	81	65	75	70	65	70	62	63	70	72	80	80	70	77	76	78	75	66	65	58	52	62	52	57	..	71.9
	Minimum	51	44	52	52	55	59	57	47	39	52	38	44	47	45	36	35	44	47	45	44	36	42	40	47	57	39	38	40	38	38	..	44.5
Washburn	Maximum	92	97	78	89	81	74	86	69	73	62	53	47	46	56	75	73	82	69	71	61	68	78	76	68	54	48	45	47	47	60	..	67.5
	Minimum	52	60	58	53	69	56	52	48	39	39	38	38	33	37	43	43	46	37	46	36	32	40	42	46	47	36	39	44	40	42	..	44.3
Westhope	Maximum	87	83	78	92	84	85	83	70	71	61	54	48	43	48	66	68	80	64	64	62	68	70	70	54	50	48	43	44	47	48	..	64.4
	Minimum	50	58	59	56	56	60	48	47	35	35	28	35	25	34	35	40	40	30	43	33	24	40	33	44	42	35	34	37	41	42	..	40.6
Williston	Maximum	94	76	68	79	78	85	65	68	66	57	40	42	36	46	66	71	76	66	62	60	69	79	74	56	50	44	45	42	48	65	..	62.4
	Minimum	56	58	55	56	55	58	49	42	38	37	35	31	26	32	40	45	37	43	41	35	33	42	37	48	42	38	40	35	40	42	..	42.2
Willow City	Maximum	85	86	84	80	74	78	72	76	74	68	60	44	48	52	72	66	78	65	71	60	67	68	70	52	52	47	40	45	47	50	..	64.4
	Minimum	50	60	55	56	54	59	54	55	52	47	42	35	24	35	35	38	40	31	43	34	28	35	32	42	40	33	33	39	40	42	..	42.

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


No Rain
No Rain
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

OCTOBER, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 24, 1915.

Departure of the Mean Temperature from the Normal, October, 1915.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

Vol. XXV. Bismarck, N. D., October, 1915. No. 10.

GENERAL SUMMARY.

Weather conditions, like those of September, interfered considerably with threshing, and at the close of the month there was much unthreshed grain in the central and western portions of the State. In the eastern portion the greater part of the threshing was completed, and much fall plowing done. Some damage to grain in the shock from heavy rain was reported. The mean temperature was somewhat above the normal, and there was the average sunshine and precipitation. The snowfall was below the normal, and practically none remained on the ground at the close of the month. Feed on the ranges is reported to be the best for several years.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.96 inches. The highest was 30.65 inches at Bismarck, Burleigh County, on the 8th; the lowest was 29.38 inches at University, Grand Forks County, on the 31st.

TEMPERATURE.

The mean temperature for the State was 46.6°, or 2.8° above the normal, and 3.4° lower than the mean for October, 1914. The highest mean reported was 50.4° at Forman, Sargent County; the lowest was 41.5° at Hannah, Cavalier County. The highest temperature reported was 87° at Orange, Adams County, on the 22d; the lowest was 10° at McKinney, Renville County, on the 8th. The greatest monthly range was 71° at Orange, Adams County; the least was 48° at Pembina, Pembina County. The greatest daily range was 55° at Cando, Towner County, on the 14th, and at Minot, Ward County, on the 9th. The distribution of temperature was fairly uniform. Usually the highest temperature occurred on the 22d, and the lowest on the 8th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 73.0 per cent, the average at 7 a. m. being 84.8 per cent, and at 7 p. m. 61.3 per cent.

PRECIPITATION.

The average precipitation for the State was 1.04 inches, or exactly normal, and 0.06 inch greater than the average for October, 1914. The greatest monthly amount reported was 3.63 inches at Ashley, McIntosh County; the least was a trace at Crosby, Divide County, and McKinney, Renville County. The greatest amount recorded in any twenty-four consecutive hours was 2.60 inches at Ashley, McIntosh County, on the 3d, and at Fullerton, Dickey County, on the 3d. The average number of days with 0.01 inch or more of precipitation was 4. The distribution of precipitation geographically was somewhat uneven. There were three stormy periods, from the 1st to the 7th, inclusive, from the 15th to the 17th, inclusive, and on the 24th and 25th. Snow in measurable quantities occurred at but ten stations, the average fall for the State being 0.2 inch. The greatest snowfall reported was 4.0 inches at Hannah, Cavalier County.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.4 miles. The greatest wind movement was 8,442 miles at Devils Lake, an average of 11.3 miles per hour; the least was 5,404 miles at Williston, an average of 7.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 50 miles per hour from the northwest on the 25th at University.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 17, partly cloudy 8, and cloudy 6.

ERRATA, SEPTEMBER, 1915.

Page 67: Paragraph on winds, highest wind velocity should be 48 miles per hour from the west at University, Grand Forks County, on the 19th.

Page 70: Minimum temperature at Bismarck on the 29th should be 41°.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.46	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.01	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.62	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.79	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.26	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.27	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.21	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.14	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.50	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.57	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.24	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.10	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	−0.01	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.57	−0.47	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.47	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.34	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.54	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.40	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.50	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.28	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.10	4	16	6	9	nw.
1913...	39.3	−4.5	90	−2	1.63	+0.59	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.06	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	0.00	4	17	8	6	nw.

Climatological Data for October, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	45.6	+0.6	75	22	22	20	47	0.41	−0.99	0.28	0	2	21	1	9	n.	E. T. Carley
Aplin	Oliver	1,900	8	f48.0	.....	f81	22	f15	8	f45	1.59	.....	0.90	T.	6	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	48.0	+4.3	77	22	20	8	37	3.63	+2.69	2.60	0	5	21	3	7	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	48.0	.....	80	21	19	8	43	1.60	.....	0.89	0	5	18	9	4	nw.	D. J. Steiner
Berthold Agency††	McLean	2,082	21	47.7	+2.1	79	21	18	8	52	1.04	+0.12	0.53	0	5	21	4	6	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	48.6	+4.5	80	22	21	8	41	1.52	+0.49	0.93	T.	5	17	7	7	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	43.2	+0.7	74	15	16	20	48	0.62	−0.46	0.50	3.0	4	15	8	8	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	45.2	.....	76	14	16	8	46	0.23	.....	0.15	1.5	2	22	1	8	.....	G. H. Phelps
Bowman	Bowman	.....	1	48.1	.....	79	22	18	8	50	0.94	.....	0.62	0	4	21	0	10	.....	L. S. Diehl
Buford	Williams	1,944	36	48.4	+5.0	76	18	22	8	44	2.02	+1.16	1.25	T.	3	20	6	5	nw.	P. Elmore
Cando	Towner	1,488	14	b47.8	+4.2	b82	24	b24	† 7	b55	0.22	−0.52	0.07	0	4	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	3	.....	.....	.....	.....	.....	.....	.....	2.68	.....	2.45	0	2	.....	.....	.....	.....	D. L. Basquin
Colgate	Steele	1,177	1	46.3	.....	75	22	22	20	45	0.31	.....	0.31	0	1	19	7	5	nw.	H. P. Rice
Cooperstrwn	Griggs	1,428	5	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.30	T.	3	19	8	4	w.	S. Friswold
Crosby	Divide	1,954	8	a46.4	.....	a72	21	a20	† 8	a40	T.	.....	T.	T.	0	.....	.....	.....	sw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	45.4	+4.9	73	1	20	8	39	0.45	−0.78	0.26	0.8	5	11	13	7	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	47.2	+3.0	77	18	17	8	45	1.78	+1.02	1.41	0	7	22	5	4	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	44.8	+1.5	72	† 9	16	8	42	0.49	−0.41	0.38	0	2	18	6	7	nw.	Geo. Michel
Dunseith	Rolette	1,682	19	43.8	+1.6	68	†14	15	8	38	0.17	−0.55	0.06	0.1	4	13	14	4	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	44.7	.....	73	18	15	8	48	0.15	.....	0.06	0	4	23	0	8	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	14	48.0	+2.0	76	22	22	† 8	42	2.56	+1.78	1.80	0	5	.....	.....	.....	sw.	O. A. Thompson
Energy ††	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.45	0	5	17	8	6	sw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.30	0	6	21	7	3	w.	M. E. Uggen
Fessenden	Wells	1,610	3	45.2	.....	77	22	12	8	47	0.26	.....	0.24	T.	2	21	4	6	nw.	G. T. Seymour
Forman	Sargent	1,249	23	50.4	+4.5	84	22	23	8	40	3.47	+2.11	1.90	0	7	13	6	12	nw.	A. Maltby
Fullerton	Dickey	1,439	17	47.8	+3.2	73	22	23	8	37	3.41	+2.18	2.60	0	5	7	18	5	nw.	F. O. Alin
Garrison	McLean	1,901	20	47.3	+3.1	81	22	16	8	46	0.64	−0.18	0.38	T.	3	20	6	5	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	47.6	.....	77	22	20	8	45	1.20	.....	0.55	0	3	24	1	6	nw.	C. H. Layman
Grafton	Walsh	827	23	b45.4	+2.2	b74	1	b21	† 8	c47	0.23	−0.66	0.19	T.	3	.....	.....	.....	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	47.3	.....	77	22	17	27	53	1.95	.....	1.60	0	3	19	3	9	nw.	G. H. Leick
Granville	McHenry	1,504	8	46.6	.....	75	24	18	8	42	0.18	.....	0.08	T.	3	15	10	6	s.	W. A. Christianson
Hannah	Cavalier	1,568	10	41.5	.....	72	1	14	20	48	0.80	.....	0.40	4.0	2	17	7	7	nw.	J. Moffatt
Hansboro	Towner	1,597	7	43.6	.....	73	1	20	8	45	0.47	.....	0.20	2.0	3	10	12	9	nw.	C. E. Blakeorby
Hettinger	Adams	2,253	7	48.2	.....	85	22	19	8	50	0.84	.....	0.50	0	4	13	9	9	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	48.6	.....	78	22	24	20	43	0.16	.....	0.10	0	2	17	8	6	nw.	F. E. Mayall
Howard	Williams	2,275	6	45.5	.....	78	22	19	8	45	0.76	.....	0.43	T.	5	17	6	8	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	47.0	+1.5	85	22	20	† 8	51	1.38	+0.46	0.85	0	7	14	6	11	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	43.3	+1.0	68	† 1	20	† 8	39	0.37	−0.48	0.20	0.5	4	12	15	4	sw.	C. R. Pettes
Lamoine	Kidder	1,936	7	45.3	.....	82	22	13	8	44	0.32	.....	0.32	T.	1	21	0	10	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	42.8	.....	73	1	18	20	51	0.29	.....	0.13	T.	4	17	8	6	sw.	R. T. Burke
Larimore	Grand Forks	1,134	20	a46.0	+1.6	a72	1	a20	8	a42	0.46	−0.85	0.16	T.	5	18	7	6	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	48.6	+3.7	74	1	24	†11	40	1.30	+0.08	1.15	0	3	15	7	9	nw.	W. S. Adams
McHenry	Foster	1,509	5	42.2	.....	73	22	17	8	44	0.24	.....	0.12	0.2	3	23	5	3	nw.	P. E. Truden
McKinney	Renville	1,640	21	44.9	+3.1	72	18	10	8	48	T.	−0.78	T.	0	0	2	26	3	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Griggs
Maddock	Benson	.....	.....	45.8	.....	73	22	17	8	46	1.50	.....	0.80	T.	4	20	0	11	sw.	W. M. Jackson
Mandan	Morton	1,644	1	48.4	.....	81	23	21	8	43	0.80	.....	0.39	T.	5	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	47.0	+3.2	73	22	21	20	43	0.26	−0.62	0.15	0	3	23	1	7	sw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	1.71	.....	1.46	0	2	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	48.2	.....	80	22	a16	8	46	0.97	.....	0.51	T.	5	16	10	5	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	b44.8	.....	a80	22	c13	8	c46	0.97	.....	0.66	T.	5	17	10	4	nw.	H. H. McCumber
Mayville	Traill	975	19	a48.9	+3.7	a74	1	a22	8	a44	0.26	−0.98	0.13	0	3	.....	.....	.....	nw.	W. C. Gould
Melville	Foster	1,590	17	f46.0	+2.3	f75	1	f20	8	f43	0.37	−0.53	0.35	0	2	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	3.04	.....	1.90	0	5	18	8	5	w.	Hj. Edman
Minot	Ward	1,557	19	45.7	+1.3	74	18	16	8	55	0.29	−0.68	0.10	T.	3	8	20	3	sw.	W. I. Faris
Minto	Walsh	820	22	46.6	+3.4	71	† 1	20	20	44	0.15	−1.14	0.15	T.	1	18	6	7	nw.	C. M. Evans
Mott	Hettinger	2,424	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. H. Opland
Napoleon	Logan	1,955	23	47.8	+5.9	83	23	16	8	50	2.31	+1.43	1.53	T.	8	17	7	7	w.	C. J. Hoof
New England	Hettinger	2,400	21	48.0	+4.1	78	†21	19	8	45	0.90	+0.26	0.90	0	1	16	10	5	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	47.0	+1.9	82	22	17	8	47	2.10	+1.05	1.51	0	4	20	6	5	nw.	J. Christiansen
Orange ††	Adams	2,586	6	47.9	.....	87	22	16	8	52	1.50	.....	1.21	0	3	17	11	3	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	11	a46.2	+2.3	73	1	b18	29	b48	0.17	−0.90	0.11	T.	3	22	4	5	s.	F. A. McCray
Pembina	Pembina	789	41	48.6	+7.8	70	1	22	29	28	3.14	+1.65	0.60	0	10	13	10	8	nw.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.50	0	2	17	7	7	nw.	J. A. Johnson
Power	Richland	1,020	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Power
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.40	T.	3	15	6	10	w.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	1.83	.....	1.42	0	5	16	9	6	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. A. Wales
Steele	Kidder	1,857	18	49.6	+6.1	77	22	20	8	40	1.54	+0.82	0.85	0	5	20	2	9	sw.	H. S. Wood
Towner	McHenry	1,482	13	46.6	+3.7	73	18	16	8	45	0.40	−0.71	0.28	1.0	2	18	7	6	w.	B. Bagley
Turtle Lake	McLean	1,899	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Jones
University	Grand Forks	830	23	45.6	+1.6	72	15	22	8	45	0.28	−1.00	0.11	T.	4	16	12	3	nw.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Lyman
Wahpeton	Richland	962	21	49.8	+3.0	80	†19	24	8	42	2.73	+1.09	1.48	0	5	23	3	4	nw.	F. E. Smith
Walhalla	Pembina	966	8	46.5	.....	75	14	a22	8	a44	0.04	.....	0.04	T.	1	17	6	8	w.	I. DeL. Lee
Washburn	McLean	1,734	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	9	43.3	.....	72	18	40	25	47	0.25	.....	0.16	0	3	21	2	8	nw.	C. M. Condit
Williston	Williams	1,875	36	47.9	+5.0	78	21	24	8	43	1.60	+0.83	0.91	T.	5	11	14	6	nw.	U. S. Werther Bureau
Willow City	Bottineau	1,471	23	43.5	+1.3	71	14	15	8	47	0.29	−0.38	0.20	2.0	3	5	22	4	nw.	M. A. Osby
Zap	Mercer	1,800	2	47.6	.....	83	22	17	8	48	1.43	.....	0.68	T.	6	19	4	8	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	48.4	+5.6	79	22	24	8	41	0.96	−1.11	0.61	0	5	23	2	6	nw.	U. S. Weather Bureau
Averages		.....	.....	46.6	+2.8	87	22	10	8	55	1.04	0.00	2.60	0.2	4	17	8	6	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for October, 1915.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red		T.		.28		T.									.13		T.		T.													0.41
Aplin	Knife	T.		.90			.36	T.										.18	.02						.10	.03							1.59
Ashley	Missouri			2.60	.21		.29	T.							.25		T.	.28														3.63
Beach	Lit. Missouri		.89	.15			.25					.21													.10								1.60
Berthold Agency	Missouri			.31		.53		.04			.15						.01								T.								1.04
Bismarck ***	Missouri	T.		.93			.23	.01									.27								.08								1.52
Bottineau ‖ ‖	Mouse	.03	T.	.01			.08																			.50							0.62
Bowbells ‖ ‖	Mouse						.08																			.15							0.23
Bowman	Grand			.62			.08					.07						.17															0.94
Buford	Missouri			1.25		T.	.24	T.			.53														T.								2.02
Cando	Sheyenne					.03	.06																		.06	.07							0.22
Carson	Heart			2.45			.23																		T.								2.68
Colgate	Sheyenne			T.		T.	T.							T.	.31			T.								T.							0.31
Cooperstown	Sheyenne			.20		.20									.30																		0.70
Crosby	Mouse	T.					T.	T.	T.		T.	T.																					T.
Devils Lake ***	Sheyenne	.01				.15	T.											.03		T.					.22	.04							0.45
Dickinson	Heart		.07	1.41	.04		.13	.01				.06						.06							T.								1.78
Donnybrook	Mouse						.38	T.				.11														T.							0.49
Dunseith	Mouse	T.				.06	.06																		.04	.01							0.17
Eckman	Mouse					.03		.03					T.												.03	.06							0.15
Edgeley	James			1.80	.28		.17								.09		T.	.22															2.56
Energy	Missouri			.10		T.	.45					.10					.27								.20								1.12
Epping	Missouri			.30			.30				.20	.10													.24	.06							1.20
Fessenden ‖ ‖	James		T.				.02	T.										.24															0.26
Forman	Sheyenne		.05	1.90	.56		.32									.07		.54	.03														3.47
Fullerton	James	T.	.08	2.60		T.	.20								T.	.06	T.	.47															3.41
Garrison	Missouri	T.		T.		T.	.38	T.			.24						.02								T.								0.64
Goodall	Missouri			.20			.55				.45																						1.20
Grafton ‖ ‖	Red						.19									.01		T.									.03						0.23
Grand Rapids	James			1.60			.10								T.			.25															1.95
Granville	Mouse	T.				.06	T.	.08			.04							T.								T.							0.18
Hannah	Pembina					.33	T.													T.					.07	.40							0.80
Hansboro	Red		.10			.05	.12																		T.	.20							0.47
Hettinger	Grand			.50	T.		.04										.25	.01							.04								0.84
Hillsboro	Red		T.				.06									.10																	0.16
Howard	Missouri	T.		.43		T.	.18	T.			.13	.01		T.											.01			T.					0.76
Jamestown ‖ ‖	James		.10	*	.85		.05									.23		.05								.10							1.38
Lakota	Sheyenne	T.				.09	.02										.06								T.	.20							0.37
Lamoine	Missouri				.32			T.									T.								T.								0.32
Langdon ‖	Pembina	T.	.04				.13	T.									.04									.08	T.						0.29
Larimore ‖	Red						.12	.07								.16		.05								.06							0.46
Lisbon ‖	Sheyenne		.05	1.15	.10																				T.		T.						1.30
McHenry	James	T.			.10	.12	T.																		.02								0.24
McKinney	Mouse					T.							T.											T.									T.
McLeod	Sheyenne			1.20			.05									.10	.40	.30															2.05
Maddock	Sheyenne					.10	.30										.80								.30								1.50
Mandan ‖	Missouri						.28	.01	.03								T.	.39								.09							0.80
Manfred	Sheyenne				T.	.09	T.	T.									.15	T.							.02								0.26
Manning	Knife			1.46			.25																										1.71
Marmarth	Lit. Missouri	.06		.51			.10				.13						.17								T.								0.97
Marstonmoor	James	T.	.04	.66	.04	T.	.11	T.								T.	T.	T.		T.					T.	.12							0.97
Mayville	Red	.02					.11									.13									T.								0.26
Melville	James			.35		.02									T.			T.															0.37
Milnor	Red		T.	1.90	.20		.25									.15	T.	.54															3.04
Minot ‖	Mouse						.10	T.				.09													T.	.10							0.29
Minto	Red																								.15	T.							0.15
Mott	Cannon Ball																																
Napoleon ‖	Missouri		.02	.20	1.53		.20	.08	T.							.03		.44								.11							2.31
New England	Cannon Ball			.90																													0.90
New Rockford	James																																
New Salem	Heart	T.		1.51			.29	T.									.29	.01															2.10
Orange	Cannon Ball			1.21			T.										.27								.02								1.50
Oriska	Sheyenne																																
Park River	Red		T.		T.	.05					T.						T.	.11								.01							0.17
Pembina ‖	Red	.08						.60	.42				.18			.46			.16						.48		.22	.38	.16				3.14
Plaza	Missouri					.50		T.				.24																					0.74
Power	Sheyenne																																
Powers Lake	Missouri							.40			T.	.14													.05								0.59
Ranger	Lit. Missouri	T.		1.42	.06	T.	.15					.10					.10																1.83
St. John	Mouse																																
Steele	Missouri		T.	.14	.85		.24										.11	T.							T.	.20							1.54
Towner	Mouse	T.				T.	T.	T.			T.														.12	.28							0.40
Turtle Lake	Missouri																																
University	Red	T.		T.		.08	T.								.08		.01			T.					T.	.11							0.28
Van Hook	Missouri																																
Wahpeton ‖	Red			*	1.48		T.	.10										1.00	.15														2.73
Walhalla	Pembina					.04																			T.								0.04
Washburn	Missouri																																
Westhope	Mouse	T.		T.		.06		.03																	T.	.16							0.25
Williston ***	Missouri			.91		.17	.08	T.			.37														.07								1.60
Willow City	Mouse	T.				.06	.03																			.20							0.29
Zap	Knife			.68			.28	T.				.27					.12	.02							.06								1.43
Moorhead, Minn ***	Red		.02	.61			T								.16		.07	.10															0.96

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	71	68	49	50	59	43	49	53	59	54	58	65	60	61	64	60	58	60	55	51	55	75	61	60	51	55	68	53	66	69	62	58.8
	Minimum	34	36	42	36	25	31	30	23	23	31	36	23	35	35	40	41	42	49	38	22	24	28	32	32	36	27	27	31	34	30	30	32.4
Aplin	Maximum	74	—	60	60	60	56	40	50	75	60	52	64	62	70	—	70	66	74	62	70	—	81	—	78	54	62	67	—	—	72	60	[f]63.9
	Minimum	42	—	40	32	34	35	27	15	30	32	35	32	36	33	—	27	35	36	42	26	—	30	—	28	30	20	40	—	—	30	33	[f]32.0
Ashley	Maximum	72	70	53	53	58	54	44	46	60	55	53	60	63	60	70	66	56	68	68	66	68	77	70	61	52	55	67	60	68	65	55	61.1
	Minimum	37	47	38	33	32	32	25	20	30	33	33	28	37	32	40	42	45	34	44	24	32	40	35	38	34	26	45	35	35	36	37	34.8
Beach	Maximum	69	58	56	69	59	45	40	49	74	53	50	60	62	73	63	59	67	73	58	70	80	79	76	50	53	68	68	69	71	74	62	63.1
	Minimum	31	37	32	30	36	32	30	19	31	33	30	33	32	36	32	33	38	36	35	28	34	38	40	29	35	27	33	34	37	36	36	33.0
Berthold Agency	Maximum	71	66	52	61	61	51	43	50	75	59	52	62	61	71	72	62	68	73	62	69	79	78	68	60	54	62	67	67	71	69	60	63.7
	Minimum	40	43	44	29	30	36	26	18	31	33	35	28	34	29	36	28	38	29	42	24	27	35	25	38	34	21	36	27	27	27	38	31.7
Bismarck	Maximum	70	61	47	58	60	47	40	47	67	61	49	64	62	72	73	53	63	71	64	70	72	80	70	58	54	57	68	63	73	65	58	62.0
	Minimum	40	45	42	34	34	33	27	21	33	38	32	32	36	37	35	40	41	37	33	21	31	44	33	40	33	26	39	36	36	35	38	35.2
Bottineau §§	Maximum	65	61	53	59	50	42	44	46	67	54	51	59	62	71	74	68	67	70	54	64	64	66	59	40	40	44	61	49	64	62	54	57.5
	Minimum	38	39	43	29	30	33	21	17	25	29	34	28	26	30	32	36	37	32	38	16	23	27	25	26	28	20	22	29	25	28	27	28.8
Bowbells §§	Maximum	68	63	68	60	40	38	38	42	70	61	58	60	68	76	70	69	70	74	67	71	65	66	46	51	61	64	67	66	65	65	61.8	
	Minimum	33	34	35	26	38	30	22	16	30	31	23	25	24	33	31	33	31	34	41	24	26	25	22	28	26	21	31	27	29	27	29	28.5
Carson	Maximum	72	65	52	57	52	48	42	48	70	58	46	62	63	70	68	66	63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Minimum	36	40	40	32	30	36	30	15	32	28	38	30	35	32	26	34	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Crosby	Maximum	64	60	56	60	53	54	41	47	67	61	49	59	60	66	66	68	70	62	62	64	72	67	66	58	59	60	62	67	65	65	—	[a]61.0
	Minimum	38	45	43	29	33	34	30	20	32	36	20	30	49	36	32	34	30	45	44	23	34	29	27	26	26	20	37	29	32	30	—	[a]31.8
Devils Lake	Maximum	73	56	50	51	56	43	40	44	62	51	50	60	63	67	69	65	63	70	64	64	61	71	57	45	43	47	64	50	64	64	56	57.5
	Minimum	40	40	37	33	38	30	25	20	30	35	35	33	38	33	40	34	44	39	35	26	31	32	28	32	30	24	38	31	33	33	37	33.4
Dickinson	Maximum	71	61	52	57	56	38	36	48	72	65	51	60	60	69	67	55	64	77	68	63	73	75	74	56	51	61	65	69	67	73	61	61.8
	Minimum	38	40	41	33	34	33	31	17	27	36	35	32	34	32	30	34	38	33	38	26	31	34	33	40	30	21	37	32	32	34	28	32.7
Donnybrook	Maximum	65	60	52	58	53	48	36	45	72	53	50	59	57	67	65	64	65	72	60	64	69	66	58	55	47	58	63	65	65	64	55	59.0
	Minimum	31	43	41	26	36	29	23	16	31	30	28	34	31	29	31	31	34	37	42	22	29	29	21	35	30	21	43	27	30	25	36	30.7
Dunseith	Maximum	65	60	58	53	54	44	40	44	62	55	50	58	60	68	68	66	65	68	60	63	61	65	57	48	45	44	61	52	63	61	53	57.1
	Minimum	36	33	32	28	33	32	19	15	28	36	33	29	29	34	32	34	34	32	36	29	30	27	33	34	30	24	30	30	30	35	33	30.6
Edgeley	Maximum	72	69	55	52	60	55	45	47	58	53	55	64	65	65	72	55	57	69	67	67	67	76	59	64	49	57	68	61	68	67	58	61.2
	Minimum	33	49	42	35	31	37	26	22	22	31	34	29	37	30	43	44	46	41	37	25	31	40	33	37	36	29	32	36	37	31	40	34.7
Fessenden §§	Maximum	74	63	48	55	58	40	45	48	65	57	60	61	61	69	72	53	64	74	65	67	68	77	67	48	49	56	67	61	68	66	57	60.7
	Minimum	35	42	37	28	29	35	21	12	28	31	32	30	33	22	31	31	32	33	44	21	28	30	25	28	31	25	30	28	30	27	36	29.8
Forman	Maximum	75	71	64	50	61	61	45	48	60	60	56	65	67	68	70	61	53	70	65	63	67	84	73	68	58	60	70	60	68	73	59	63.6
	Minimum	40	50	46	37	29	40	29	23	26	33	35	25	34	32	50	46	48	37	45	27	32	45	39	40	48	30	33	33	39	37	42	37.1
Fullerton	Maximum	70	70	53	51	60	50	44	44	57	56	60	62	65	63	68	55	53	67	67	65	65	73	57	65	53	56	69	61	65	65	60	60.0
	Minimum	48	49	41	38	29	38	27	23	26	32	34	25	33	31	45	46	47	39	39	28	33	39	33	38	37	31	32	36	38	34	36	35.6
Garrison	Maximum	69	61	52	60	56	49	46	47	75	61	52	61	60	69	71	64	71	73	61	68	73	81	71	58	51	57	65	63	65	62	58	62.3
	Minimum	38	40	41	28	34	34	24	16	37	33	34	31	33	29	28	33	28	31	38	25	38	35	32	39	32	23	37	31	34	31	33	32.3
Grafton §§	Maximum	74	58	53	51	60	42	44	—	58	52	55	63	67	70	71	62	65	71	66	63	66	67	57	61	38	46	69	67	65	—	58	[b]60.0
	Minimum	39	46	37	32	26	36	27	21	—	25	37	24	33	23	28	30	37	32	35	21	26	34	29	31	35	34	29	33	24	26	—	[b]30.7
Granville	Maximum	70	59	50	56	73	53	37	47	72	45	50	54	60	70	63	58	65	70	60	69	67	72	62	75	48	52	65	62	67	64	65	60.6
	Minimum	34	42	38	30	53	33	24	18	32	34	33	34	34	28	40	35	28	23	28	22	32	35	34	32	24	40	30	32	32	34	36	32.5
Hannah	Maximum	72	55	52	49	51	46	44	48	51	50	54	57	61	68	67	68	70	68	60	62	65	60	58	46	45	40	63	54	55	60	55	56.6
	Minimum	32	36	32	28	31	25	15	18	24	28	30	29	21	29	28	28	29	25	14	29	25	21	29	28	23	22	27	26	30	28	26.4	
Hansboro	Maximum	73	62	55	54	48	48	40	42	62	52	53	60	62	68	66	70	72	63	64	62	62	60	55	46	40	46	65	64	64	61	54	57.8
	Minimum	35	46	37	30	33	32	23	20	29	28	33	30	26	23	32	30	34	33	21	33	26	27	22	30	28	22	33	29	32	24	34	29.5
Hettinger	Maximum	71	67	59	55	60	51	42	46	67	56	48	59	65	70	64	51	60	70	60	70	76	85	73	54	51	64	66	68	71	74	61	62.4
	Minimum	34	39	39	33	38	35	30	19	29	37	36	31	35	37	35	47	44	36	45	28	30	35	33	36	29	25	35	31	36	31	28	34.1
Howard	Maximum	68	60	53	61	54	44	41	47	60	50	50	58	58	68	68	67	68	72	57	65	75	78	66	54	51	61	61	68	65	68	56	60.4
	Minimum	35	43	42	25	38	33	29	19	26	36	20	33	28	35	32	30	29	35	25	24	30	36	30	34	28	22	36	25	32	30	29	30.6
Jamestown §§	Maximum	74	62	48	52	59	42	44	49	49	58	53	63	66	68	78	67	60	74	67	69	65	85	60	50	55	57	68	60	69	69	58	60.9
	Minimum	32	38	42	34	30	34	25	20	25	30	36	49	37	28	32	42	44	39	39	25	26	34	32	32	28	29	28	34	35	34	40	33.2
Lakota	Maximum	68	57	46	46	45	44	40	44	64	49	48	58	60	66	68	65	65	68	63	65	60	66	54	44	40	42	63	47	63	63	54	55.6
	Minimum	36	43	35	32	28	34	26	20	28	32	29	25	34	28	34	34	39	29	39	20	25	29	30	33	35	26	32	29	29	32	37	31.0
Lamoine	Maximum	72	61	45	54	50	49	35	45	60	65	60	55	65	60	71	61	60	70	60	68	68	82	66	45	50	60	65	68	68	64	65	60.2
	Minimum	35	38	38	28	28	34	17	13	30	28	30	33	25	30	30	39	38	36	30	20	38	38	28	30	31	20	30	30	29	35	33	30.4
Langdon	Maximum	73	55	50	47	51	37	39	48	37	50	52	59	64	68	67	72	67	70	63	61	66	67	55	48	34	41	67	65	63	59	52	56.4
	Minimum	39	40	38	31	30	35	26	19	22	32	31	29	31	30	25	21	34	35	43	18	25	26	24	28	30	26	25	27	27	27	31	29.2
Larimore §§	Maximum	72	57	49	48	59	40	43	46	50	50	52	67	—	70	70	60	61	68	64	62	62	64	57	57	42	62	67	63	66	68	58	[a]58.7
	Minimum	37	48	38	35	26	37	29	20	23	31	36	25	28	—	48	38	43	39	38	21	28	33	29	33	33	32	29	33	36	30	40	[a]33.2
Lisbon §§	Maximum	74	46	46	52	46	46	54	50	51	54	60	63	67	68	62	54	46	55	63	60	62	60	52	44	44	44	52	68	69	70	42	55.6
	Minimum	34	45	39	37	37	31	28	32	28	25	24	28	30	40	38	32	32	30	32	27	29	34	33	32	26	24	26	37	36	32	34	32.0
McHenry	Maximum	70	60	51	57	48	50	40	45	60	54	60	59	65	63	70	72	62	60	64	65	63	73	67	50	47	49	66	52	67	63	60	59.0
	Minimum	37	42	31	30	35	33	23	17	29	34	45	29	30	29	37	39	45	35	42	22	25	29	27	30	27	28	32	31	29	36	29	25.4
McKinney	Maximum	67	67	55	63	58	50	40	48	45	54	55	60	61	70	70	70	72	65	68	70	65	60	50	49	60	65	66	68	70	60	61.0	
	Minimum	30	45	44	25	40	33	22	10	22	29	26	30	30	25	30	22	30	32	40	22	22	22	18	40	28	32	40	24	20	22	37	28.8
Manfred	Maximum	71	61	54	59	53	38	64	55	49	60	60	69	70	55	70	55	63	68	64	64	67	73	60	48	48	54	67	60	66	63	54	60.1
	Minimum	38	44	29	34	35	22	40	32	32	31	37	28	34	32	34	32	45	43	42	21	30	41	36	38	32	25	37	30	30	28	35	33.8
Marmarth	Maximum	72	69	55	56	62	46	43	50	72	57	45	59	61	69	65	64	66	71	69	69	78	80	65	50	53	70	67	69	73	74	62	63.3
	Minimum	35	48	48	35	31	32	29	16	29	35	31	28	32	27	35	44	29	36	34	29	32	37	38	—	32	25	39	31	33	32	29	[a]33.0
Minot §§	Maximum	71	62	52	59	55	40	37	48	73	50	54	61	62	71	69	70	72	74	68	73	69	70	64	55	50	60	68	65	67	72	64	62.1
	Minimum	33	42	38	30	29	35	23	16	18	33	33	31	35	29	30	27	35	36	40	23	25	27	23	34	25	24	25	31	28	23	27	29.3
Mott	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Napoleon §§	Maximum	75	67	46	56	60	40	42	48	63	56	60	61	65	70	75	75	61	72	70	68	72	80	83	68	56	65	70	63	71	65	60	63.6
	Minimum	35	45	43	30	30	33	23	16	20	32	31	27	31	35	34	40	44	32	37	21	24	35	33	34	33	22	35	33	33	38	34	32.0
New England	Maximum	70	68	52	52	60	60	44	48	70	58	59	58	60	70	65	53	70	70	68	60	78	78	75	65	52	65	65	68	70	73	61	63.4
	Minimum	37	37	39	31	34	34	32	19	28	35	35	33	36	31	34	39	31	31	30	28	36	34	38	38	38	23	20	28	34	31	36	32.6
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	68	60	51	56	56	49	42	46	48	54	56	60	63	70	71	70	72	71	63	69	71	82	62	57	54	58	67	64	73	58	63	61.5
	Minimum	41	41	39	31	32	32	27	17	28	32	30	41	46	27	30	34	42	37	35	26	33	35	35	31	31	24	38	32	31	32	35	32.5
Orange	Maximum	73	70	52	56	60	48	45	48	69	56	55	63	64	70	66	55	63	72	63	63	75	87	74	60	50	62	71	68	74	73	62	63.5
	Minimum	38	40	37	33	30	35	30	16	30	30	30	30	33	36	30	40	40	34	31	31	26	35	40	35	28	22	36	30	36	31	27	32.3
Oriska	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Park River	Maximum	73	64	53	58	60	48	43	47	58	51	53	60	66	70	69	63	63	70	68	64	65	65	57	57	47	48	67	52	66	65	57	59.6
	Minimum	39	47	40	34	32	37	30	24	26	33	39	34	39	37	39	35	43	40	—	26	32	29	29	28	—	29	27	32	18	32	21	[b]32.8
Pembina §§	Maximum	70	58	56	54	48	52	50	46	48	46	48	51	54	60	62	54	51	56	58	54	61	58	46	48	46	48	51	42	50	48	46	52.3
	Minimum	44	46	41	40	38	34	36	34	32	34	32	33	34	36	38	38	36	34	35	36	34	36	38	32	36	32	34	32	22	28	30	35.0
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	71	64	55	57	68	51	39	47	71	69	51	60	60	71	73	69	65	69	70	66	66	72	61	48	46	53	65	61	66	66	58	61.5
	Minimum	35	43	39	30	35	35	20	16	31	32	36	32	35	29	32	30	43	35	32	21	27	34	26	37	28	25	40	29	29	30	34	31.6
Turtle Lake	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
University	Maximum	72	58	52	43	61	47	43	47	58	54	53	55	67	71	72	63	62	62	65	59	63	71	61	62	39	44	67	49	66	70	59	58.5
	Minimum	38	45	38	26	26	32	30	22	27	28	28	25	33	26	44	36	43	36	41	23	31	33	34	37	34	31	30	40	36	28	35	32.8
Wahpeton §§	Maximum	74	72	73	45	62	49	45	45	57	58	57	63	68	69	72	59	56	65	80	62	67	80	65	75	75	52	74	56	69	76	64	64.0
	Minimum	42	48	50	37	28	28	29	24	26	34	33	26	30	30	45	41	42	45	43	35	31	41	40	37	37	27	32	35	38	35	37	35.7
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	62	49	53	60	51	45	51	47	68	60	52	61	49	71	67	68	68	72	60	66	65	64	60	42	40	44	46	52	50	54	56	56.5
	Minimum	45	44	43	26	35	34	20	15	30	29	26	30	28	30	29	30	39	32	38	19	25	28	25	36	27	23	25	28	33	27	35	30.1
Williston	Maximum	68	62	52	59	58	41	40	48	72	49	50	59	59	67	67	67	66	74	58	66	78	77	79	52	53	63	65	69	66	70	58	61.4
	Minimum	41	43	40	32	39	34	30	24	34	37	27	34	34	37	33	31	33	37	32	31	35	37	32	35	31	26	43	31	35	44	35	34.4
Willow City	Maximum	68	60	52	54	51	48	40	46	67	56	52	60	59	71	70	64	66	68	59	65	64	67	59	43	40	44	64	55	65	64	56	58.0
	Minimum	32	43	40	28	31	32	19	15	30	29	33	25	31	24	28	28	40	28	36	18	25	29	26	33	27	24	28	29	28	26	32	29.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


No Rain
No Rain
No Rain
Trace
Trace
Trace
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 23, 1915.

Departure of the Mean Temperature from the Normal, November, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., NOVEMBER, 1915. No. 11.

GENERAL SUMMARY.

The weather was very favorable for threshing, much of which was left over from the preceding month, owing to frequent storms. Practically all of the threshing in the eastern part of the State was completed, but in the central and western portions there was considerable unthreshed grain at the close of the month. While the feed on the ranges is excellent, considerable complaint was heard on account of the lack of snow for livestock. The mean temperature averaged slightly above the normal, and the night temperatures were unusually mild. There was somewhat more than the usual precipitation. The moisture content of the soil when the ground froze was above the normal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.93 inches. The highest was 30.45 inches at Moorhead on the 7th; the lowest was 29.30 inches at Moorhead on the 9th.

TEMPERATURE.

The mean temperature for the State was 28.1°, or 2.3° above the normal, and 2.6° lower than the mean for November, 1914. The highest mean reported was 33.0° at Wahpeton, Richland County; the lowest was 22.9° at Bowbells, Burke County, and Langdon, Cavalier County. The highest temperature reported was 71° at Fessenden, Wells County, and Wahpeton, Richland County, on the 5th the lowest was −10° at Hannan, Cavalier County, on the 22d. The greatest monthly range was 73° at Granville, McHenry County. The greatest daily range was 49° at Minot, Ward County, on the 4th. The distribution of temperature was fairly uniform. Usually the highest temperature occurred on the 5th, and the lowest on the 14th or 29th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 81.4 per cent, the average at 7 a. m. being 86.0 per cent, and at 7 p. m. 76.9 per cent.

PRECIPITATION.

The average precipitation for the State was 0.91 inch, or 0.31 inch above the normal, and 0.56 inch greater than the average for November, 1914. The greatest monthly amount reported was 4.44 inches at Crosby, Divide County; the least was a trace at Walhalla, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 4.02 inches at Crosby, Divide County, on the 7th. The average number of days with 0.01 inch or more of precipitation was 4. The distribution of precipitation was quite uniform, the heaviest occurring in the northwestern portion, and the least in the northeastern. There were two stormy periods, the 7th and 8th, and from the 15th to the 22d. The average snowfall was 3.7 inches. The greatest snowfall reported was 17.0 inches at McKinney, Renville County.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.7 miles. The greatest wind movement was 8,935 miles at Devils Lake, an average of 12.4 miles per hour; the least was 6,312 miles at Williston, an average of 8.8 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 52 miles per hour from the northwest at Moorhead on the 8th.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear, partly cloudy, and cloudy days each being 10.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1891...	20.5	−5.3	71	−35	0.86	+0.26	4	12	8	10	nw.
1892...	22.3	−3.5	75	−26	0.79	+0.19	4	8	9	13	nw.
1893...	22.4	−3.4	74	−27	0.57	−0.03	3	9	10	11	nw.
1894...	23.1	−2.7	71	−25	0.47	−0.13	4	10	8	12	nw.
1895...	20.6	−5.2	76	−25	1.08	+0.48	5	8	9	13	nw.
1896...	8.1	−17.7	62	−32	2.23	+1.63	9	8	7	15	nw.
1897...	20.0	−5.8	86	−28	0.32	−0.28	3	12	9	9	nw.
1898...	23.0	−2.8	69	−30	0.34	−0.26	3	13	8	9	s.
1899...	36.0	+10.2	68	2	0.81	+0.21	2	15	4	11	nw.
1900...	20.4	−5.4	64	−29	0.32	−0.28	5	14	7	9	nw.
1901...	26.8	+1.0	70	− 7	0.19	−0.41	1	15	8	7	nw.
1902...	29.6	+3.8	69	−12	0.24	−0.36	3	11	6	13	nw.
1903...	25.3	−0.5	78	−20	0.26	−0.34	2	13	4	13	nw.
1904...	35.7	+9.9	80	−10	0.09	−0.51	1	18	5	7	nw.
1905...	31.6	+5.8	88	−38	1.54	+0.94	9	7	13	10	nw.
1906...	23.8	−2.2	68	−16	1.62	+1.02	7	10	7	13	nw.
1907...	30.2	+4.4	85	−15	0.09	−0.51	1	16	8	6	nw.
1908...	31.1	+5.3	75	−15	0.97	+0.37	4	12	8	10	nw.
1909...	29.4	+3.6	88	−23	0.43	−0.17	3	11	9	10	nw.
1910...	23.9	−1.9	68	−23	0.37	−0.23	2	8	10	12	nw.
1911...	16.7	−9.1	58	−33	0.65	+0.05	6	12	8	10	nw.
1912...	31.8	+6.0	70	1	0.06	−0.54	1	14	9	7	nw.
1913...	34.1	+8.3	77	− 2	0.22	−0.38	2	15	8	7	nw.
1914...	30.7	+4.9	83	−30	0.35	−0.25	2	13	10	7	nw.
1915...	28.1	+2.3	71	−10	0.91	+0.31	4	10	10	10	nw.

Climatological Data for November, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	27.8	+2.4	60	5	0	16	39	0.69	+0.19	0.57	1.2	2	21	0	9	n.	E. T. Carley
Aplin	Oliver	1,900	8	31.3	.....	66	3	0	14	44	0.93	.....	0.43	3.0	4	6	17	7	n.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	31.6	+5.6	66	5	6	14	34	0.43	−0.10	0.30	1.0	3	18	6	6	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	29.7	.....	65	4	− 5	29	46	1.24	.....	0.78	4.0	5	11	13	6	nw.	D. J. Steiner
Berthold Agency††	McLean	2,082	21	[b]31.3	+3.8	[b]66	5	[b] 1	14	[b]48	0.94	+0.40	0.57	2.2	5	7	16	7	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	32.6	+6.6	68	5	8	29	33	0.57	−0.11	0.40	1.7	4	10	13	7	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	23.1	+0.9	64	5	− 4	30	46	0.69	+0.09	0.53	.....	8	9	5	16	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	[a]22.9	.....	[a]63	5	− 9[a]	14	[a]44	0.95	.....	0.95	8.0	1	.....	.....	.....	.....	G. H. Phelps
Bowman	Bowman	.....	1	32.8	.....	65	5	− 2	29	41	0.35	.....	0.35	T.	1	10	0	20	.....	L. S. Diehl
Buford	Williams	1,944	36	32.2	+5.4	66	1	5	†14	44	1.42	+0.94	1.35	.....	2	15	10	5	nw.	P. Elmore
Cando	Towner	1,488	14	23.0	−2.2	67	5	1	†14	33	0.86	+0.36	0.41	.....	7	27	0	3	nw.	E. T. Judd
Carson	Morton	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. L. Basquin
Colgate	Steele	1,177	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. P. Rice
Cooperstrwn	Griggs	1,428	5	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.60	4.0	3	11	9	10	w.	S. Friswold
Crosby	Divide	1,954	8	26.2	.....	60	1	− 8	29	32	4.44	.....	4.02	10.5	3	20	1	9	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	11	26.3	+3.7	62	5	0	30	29	0.60	−0.11	0.35	4.0	12	11	4	15	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	29.8	+2.5	61	3	− 2	29	36	1.15	+0.62	0.65	3.3	4	2	23	5	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	24.8	−3.2	62	5	− 8	14	43	1.56	+0.93	1.53	1.0	3	10	10	10	nw.	Geo. Miehel
Dunseith	Rolette	1,682	19	23.6	−1.4	[a]61	5	1	29	[a]33	1.71	+1.36	0.40	.....	8	5	9	16	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	[a]25.4	.....	[a]67	5	− 4[a]	14	[a]42	0.92	.....	0.72	6.0	6	.....	.....	.....	.....	J. Nussbaum
Edgeley	LaMoure	1,468	14	31.9	+2.4	68	5	5	14	35	0.26	−0.12	0.13	2.6	2	2	16	12	nw.	O. A. Thompson
Energy ††	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	0.46	.....	0.38	1.0	2	6	14	10	nw.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.86	11.0	4	18	9	3	w.	M. E. Uggen
Fessenden	Wells	1,610	3	27.6	.....	71	5	4	29	42	0.46	.....	0.22	4.2	4	15	9	6	nw.	G. T. Seymour
Forman	Sargent	1,249	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Maltby
Fullerton	Dickey	1,439	17	31.8	+3.4	62	3	6	15	32	0.25	−0.43	0.25	T.	1	6	15	9	nw.	F. O. Alin
Garrison	McLean	1,901	20	29.8	+4.8	63	5	0	14	44	1.28	+0.60	0.62	2.7	5	7	18	5	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	29.0	.....	65	5	0	29	42	0.53	.....	0.38	.....	3	7	12	11	nw.	C. H. Layman
Grafton	Walsh	827	23	[a]24.2	+1.7	[a]57	5	− 2[a]	17	[b]38	1.39	+0.75	0.97	3.2	8	.....	.....	.....	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	31.2	.....	68	5	0	14	37	0.16	.....	0.16	T.	1	14	0	16	nw.	G. H. Leick
Granville	McHenry	1,504	8	24.6	.....	65	† 2	− 8	14	42	0.73	.....	0.59	7.0	5	14	9	7	nw.	W. A. Christianson
Hannah	Cavalier	1,568	10	23.6	.....	60	5	−10	22	42	1.01	.....	0.50	9.0	4	9	8	13	nw.	J. Moffatt
Hansboro	Towner	1,597	7	[c]25.4	.....	[c]65	5	[g] 1	14	[c]33	1.22	.....	0.50	1.2	4	7	9	14	.....	C. E. Blackorby
Hettinger	Adams	2,253	7	32.8	.....	65	5	4	29	40	0.29	.....	0.22	0.1	3	6	5	19	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	28.4	.....	57	5	− 1	16	29	1.22	.....	0.45	4.0	8	9	12	9	nw.	F. E. Mayall
Howard	Williams	2,275	6	23.8	.....	61	5	− 6	29	38	1.14	.....	1.01	12.5	2	4	21	5	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	29.6	+3.1	69	5	4	†14	34	0.50	−0.23	0.25	2.5	4	9	10	11	nw.	T. Pettigrew
Lakota	Nelson	1,579	14	24.3	+1.9	54	5	− 6	24	41	0.66	−0.12	0.50	3.5	6	4	22	4	nw.	C. R. Pettes
Lamoine	Kidder	1,936	7	[d]25.9	.....	[d]66	5	[e] 1	14	[e]39	1.05	.....	0.85	2.0	3	.....	.....	.....	.....	E. V. Virgin
Langdon	Cavalier	1,615	19	22.9	.....	58	5	0	†14	39	0.70	.....	0.35	3.5	5	8	6	16	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	26.1	+1.7	52	3	− 3	22	33	1.74	+1.36	0.82	1.2	3	12	4	14	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	28.4	−1.2	62	1	0	28	34	0.46	−0.26	0.26	.....	1	12	9	9	nw.	W. S. Adams
McHenry	Foster	1,509	5	27.6	.....	63	5	− 3	13	34	0.29	.....	0.24	0.5	3	20	0	10	nw.	P. E. Truden
McKinney	Renville	1,640	21	24.4	+1.2	66	5	− 3	29	45	1.70	+1.03	1.20	17.0	4	8	16	6	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	30.4	.....	62	5	3	16	40	0.75	.....	0.50	1.5	3	10	8	12	nw.	E. W. Griggs
Maddock	Benson	.....	.....	27.6	.....	67	5	1	14	39	0.44	.....	0.24	.....	4	12	18	0	nw.	W. M. Jackson
Mandan	Morton	1,644	1	32.2	.....	68	5	8	†14	40	0.34	.....	0.21	.....	5	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	28.6	+1.2	65	5	1	14	37	1.21	+0.45	0.70	5.2	7	10	8	12	nw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	1.47	.....	1.10	3.7	2	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	32.0	.....	68	4	− 2	29	41	0.49	.....	0.26	5.8	5	14	10	6	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	19	28.6	+0.8	58	† 1	− 2	16	30	0.81	+0.14	0.43	.....	4	11	4	15	nw.	W. C. Gould
Melville	Foster	1,590	17	[c]29.4	+1.8	[c]64	5	[c] 5	14	[c]35	0.85	+0.43	0.70	1.5	2	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman
Minot	Ward	1,557	19	26.4	−2.4	65	5	0	14	49	0.87	+0.24	0.60	2.5	5	7	14	9	nw.	W. I. Faris
Minto	Walsh	820	22	28.8	+4.3	56	5	0	22	28	1.41	+0.85	1.05	3.0	7	7	17	6	s.	C. M. Evans
Mott	Hettinger	2,424	8	28.6	.....	68	3	0	29	43	0.33	.....	0.31	0.2	2	9	12	9	nw.	O. H. Opland
Napoleon	Logan	1,955	23	29.9	+4.9	67	5	2	14	47	0.47	−0.23	0.40	0.5	3	7	8	15	nw.	C. J. Hoof
New England	Hettinger	2,400	21	31.6	+3.2	62	5	5	29	38	0.85	+0.30	0.65	2.0	2	14	13	3	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	32.3	+2.5	67	5	2	29	36	0.57	+0.24	0.25	4.0	4	11	11	8	nw.	J. Christianson
Orange ††	Adams	2,586	6	32.1	.....	67	5	1	29	39	0.03	.....	0.03	0.1	1	19	7	4	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	[c]29.8	+0.2	[c]58	† 1	[g] 1	30	[c]35	0.50	−0.11	0.50	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	11	25.6	−3.3	60	6	3	16	42	0.86	+0.02	0.38	0.8	6	17	1	12	.....	F. A. McCray
Pembina	Pembina	789	41	24.6	+2.4	55	4	− 6	30	33	1.57	+0.85	0.40	3.5	8	7	13	10	w.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.70	.....	1	10	13	7	nw.	J. A. Johnson
Power	Richland	1,020	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	1.85	.....	1.00	16.5	7	1	7	22	nw.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.73	.....	0.38	3.0	2	12	10	8	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Lyman
Steele	Kidder	1,857	18	31.6	+5.6	60	† 3	4	29	35	0.90	+0.31	0.75	1.0	3	14	12	4	w.	H. S. Wood
Towner	McHenry	1,482	13	26.1	+5.1	66	5	− 1	14	37	0.78	+0.28	0.38	4.0	1	5	12	13	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Jones
University	Grand Forks	830	23	26.6	+1.3	57	5	3	30	28	1.00	+0.27	0.52	2.7	10	11	12	7	nw.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. A. Wales
Wahpeton	Richland	962	21	33.0	+6.2	71	5	0	16	44	0.69	+0.02	0.57	.....	2	14	3	13	nw.	F. E. Smith
Walhalla	Pembina	966	8	25.8	.....	60	5	− 2	22	34	T.	.....	T.	T.	0	12	6	12	n.	I. DeL. Lee
Washburn	McLean	1,734	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	9	23.8	.....	64	6	− 4	†29	34	0.90	.....	0.72	.....	7	10	0	20	nw.	W. A. Meddaugh
Williston	Williams	1,875	36	29.7	+4.5	64	4	1	7	40	2.08	+1.48	1.69	4.2	5	5	15	10	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	24.2	+3.4	66	5	− 3	29	40	1.15	+0.74	0.32	6.0	7	3	16	11	nw.	M. A. Ostby
Zap	Mercer	1,800	2	31.5	.....	66	5	1	29	44	1.05	.....	0.57	4.2	6	6	10	14	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	29.4	+5.0	58	3	− 1	16	27	0.78	−0.20	0.58	1.3	6	12	3	15	nw.	U. S. Weather Bureau
Averages		.....	.....	28.1	+2.3	71	5	−10	22	49	0.91	+0.31	4.02	3.7	4	10	10	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

†† Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for November, 1915.

Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red								.57			T.					.12		T.							T.				T.			0.69
Aplin	Knife							.43	.07		T.	T.		T.		T.	T.		.05	T.			T.		T.	.38			T.				0.93
Ashley	Missouri							.30	.03									.10															0.43
Beach	Lit. Missouri					T.		.78			T.	T.					.10						.07		.19	.10		T.					1.24
Berthold Agency	Missouri						T.	.57			T.			T.		T.	T.	.07		.01			.02		.27				T.		T.		0.94
Bismarck ***	Missouri							.40				T.		T.		T.	T.	T.	.04	T.			.10		T.	.03	T.		T.		T.		0.57
Bottineau ‖ ‖	Mouse	T.						T.	.53		.03					T.	.01			.01	.04	.01	.05	.01			T.	T.		T.			0.69
Bowbells ‖ ‖	Mouse								.95																								0.95
Bowman	Grand							.35									T.				T.				T.								0.35
Buford	Missouri	T.						1.35				T.					.07						T.						T.				1.42
Cando	Sheyenne							.41	.11	.08									.01		.02		.03								.20		0.86
Carson	Heart																																
Colgate	Sheyenne																																
Cooperstown	Sheyenne							.60								.02		.03				T.	T.						T.				0.65
Crosby	Mouse						T.	4.02								T.		.40		.02													4.44
Devils Lake ***	Sheyenne	.02				.01	T.	.34	.01	.02						.02	.02	.02	T.	.01	.01	T.	.06						T.		.06		0.60
Dickinson	Heart							.65			T.	T.	T.					.01	T.				T.		.24	.25		T.	T.				1.15
Donnybrook	Mouse							*	1.53		T.					T.		.03		T.									T.		T.		1.56
Duluseith	Mouse							.20	.14								T.	T.	.16	.40	.15		.16								.40		1.71
Eckman	Mouse	T.						.72	.02	.03	.02						.08		T.	T.	T.		.05								T.		0.92
Edgeley	James							.13								T.		.13															0.26
Energy	Missouri							.38		T.				T.		.08							T.								T.		0.46
Epping	Missouri							.86	.07									.16		.08													1.17
Fessenden ‖ ‖	James							T.	.02							.12	.10	T.	T.	T.		.22			T.					T.			0.46
Forman	Sheyenne																																
Fullerton	James							.25						T.	T.		T.												T.				0.25
Garrison	Missouri	T.					T.	.62	.08				T.	T.					.11			T.	.05		.12	.30			T.		T.		1.28
Goodall	Missouri							.38	.10											.05													0.53
Grafton ‖ ‖	Red	.10				.03			.97									.13	.08	.02	.01			.05									1.39
Grand Rapids	James							.16								T.										T.							0.16
Granville	Mouse	.02					T.	.59		T.	T.					*	.08	T.				.04	T.										0.73
Hannah	Pembina							.11	.50	.20	T.	T.					T.		T.		.20		T.						T.				1.00
Hansboro	Red	.27							.20	.25																					.50		1.22
Hettinger	Grand	T.							.22			T.			T.			.04				T.			.03								0.29
Hillsboro	Red						T.	.45	.14		.07	.16				.15					.10		.05		.10			T.					1.22
Howard	Missouri							1.01	.13		T.						T.			T.			T.										1.14
Jamestown ‖ ‖	James							.25			T.					.10		.05							T.								0.50
Lakota	Sheyenne		T.					.50								T.		.02	T.	T.	.04	.04								.04		.02		0.66
Lamoine	Missouri							.85								T.		T.		T.			.10			.10			T.		T.		1.05
Langdon ‖	Pembina	T.						*	.35	.20										T.	.10		T.	.05									0.70
Larimore ‖	Red	.02							.82			.78						.10								.02								1.74
Liston ‖	Sheyenne								.26							T.	.20																	0.46
McHenry	James							.24	T.			T.				.03		T.		T.		.02							T.		T.			0.29
McKinney	Mouse							*	1.20							.20						.30												1.70
McLeod	Sheyenne							.50	.10							.15																		0.75
Maddock	Sheyenne							.03	.13							.24							.04											0.44
Mandan ‖	Missouri								.21							T.	T.	.01	.05		T.		.05			.02							0.34
Manfred	Sheyenne						T.	.70	.10		T.					.20		.02		.02	T.		.10						T.		.02		1.21
Manning	Knife						1.10									.37																		1.47
Marmarth	Lit. Missouri					T.		.26											.01	T.	.07		T.		*	.15								0.49
Marstonmoor	James																																
Mayville	Red								.43							.10			.20		.08													0.81
Melville	James							.70								.15							T.			T.								0.85
Milnor	Red																																
Minot ‖	Mouse							.02	.60							.05	.10						.10											0.87
Minto	Red	.03				.07		*	1.05		.04		T.					T.			.07		.09											1.41
Mott	Cannon Ball							.31										.02												T.	T.			0.33
Napoleon ‖	Missouri								.40		.05					T.		T.								.02				T.				0.47
New England	Cannon Ball							.65																	.20									0.85
New Rockford	James																																
New Salem	Heart							.25			T.			T.		T.	T.	.03	.05	T.			.04			.20			T.		T.			0.57
Orange	Cannon Ball																									.03								0.03
Oriska	Sheyenne														.50																			0.50
Park River	Red	T.						.38	.38	T.	.02	T.	T.					.03		T.	.01		.04						T.	T.				0.86
Pembina ‖	Red		.40	.12	.22		.20	.24		.12					.15				12															1.57
Plaza	Missouri							.70																										0.70
Power	Sheyenne																																
Powers Lake	Missouri							1.00	.20	T.					.30	.15		T.	.05	.10			T.						T.		.05			1.85
Ranger	Lit. Missouri					T.		.38			T.	T.		T.				T.			T.		T.		T.	.35			T.				0.73
St. John	Mouse																																
Steele	Missouri							.75	.05				T.	T.		T.			T.		T.		T.			.10			T.					0.90
Towner	Mouse							.38	.30							.10			T.	T.									T.		T.			0.78
Turtle Lake	Missouri																																
University	Red	.05				T.	.04	.52	T.		.09	.05	.01					.06	T.	T.	.06	T.	.06		.06				T.					1.00
Van Hook	Missouri																																
Wahpeton ‖	Red								.57								.12																	0.69
Walhalla	Pembina							T.	T.																									T.
Washburn	Missouri																																
Westhope	Mouse							.72			.05				T.	.01			.02	.04	.02	.04	T.											0.90
Williston ***	Missouri							1.69			.14	T.		T.		T.	.15		.05	T.		.05	T.							T.			2.08
Willow City	Mouse							.20	.32	.10	.03					.10					.20	T.	.20						T.					1.15
Zap	Knife							.57			T.									.09	T.		.01		.18	.19			.01					1.05
Moorhead, Minn ***	Red							.58			.07					.08	T.			.01	T.		.02			.02			T.					0.78

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	55	55	58	54	60	49	46	42	38	43	40	32	32	35	28	25	35	35	30	37	27	37	39	43	28	34	37	33	28	31	..	38.9
	Minimum	38	23	38	23	21	31	32	34	23	26	22	18	10	6	11	0	8	23	27	22	8	7	5	12	25	20	16	12	8	5	..	18.5
Aplin	Maximum	55	56	66	63	62	57	45	42	47	42	32	29	29	34	36	32	41	40	42	40	37	37	48	42	35	40	34	30	27	33	..	41.8
	Minimum	35	18	33	19	32	29	29	30	20	29	16	14	9	0	23	26	26	20	8	23	12	20	20	28	22	20	20	20	2	20	..	20.8
Ashley	Maximum	57	53	60	55	66	59	49	42	39	47	34	30	25	31	41	32	33	45	35	35	32	41	45	45	47	48	39	28	27	40	..	42.0
	Minimum	38	27	30	24	32	21	37	28	21	30	20	14	12	6	10	20	19	24	24	22	14	12	28	26	22	17	20	21	8	13	..	21.3
Beach	Maximum	55	55	61	65	60	58	39	45	53	42	62	26	32	27	42	32	42	37	44	35	28	28	36	36	32	26	23	23	24	23	..	40.0
	Minimum	27	20	30	25	30	32	29	20	29	25	16	11	12	8	23	20	26	27	18	11	14	11	16	25	15	21	15	14	−5	18	..	19.4
Berthold Agency	Maximum	61	57	64	64	66	54	45	39	49	43	29	27	27	34	34	−	39	40	39	35	39	−	40	46	39	45	37	29	26	31	..	[b]42.1
	Minimum	38	17	33	16	30	34	30	27	33	27	16	15	11	1	20	−	26	19	15	21	19	−	21	18	24	20	22	15	2	13	..	[1]20.5
Bismarck	Maximum	57	55	65	58	68	59	41	42	45	42	34	29	26	31	38	33	37	43	36	34	36	40	49	46	36	47	35	32	37	36	..	41.9
	Minimum	36	27	36	25	37	38	33	25	26	26	21	14	12	9	21	23	21	22	20	23	21	25	21	31	24	26	21	13	8	15	..	23.3
Bottineau §§	Maximum	47	52	53	51	64	50	46	30	32	35	20	19	17	23	33	34	30	31	25	21	25	33	36	40	27	39	28	16	19	23	..	33.3
	Minimum	29	20	21	16	18	28	39	26	9	24	11	10	−1	−1	2	14	18	19	21	9	0	2	5	14	16	13	9	4	−3	−4	..	12.9
Bowbells §§	Maximum	−	57	60	61	63	57	56	41	38	32	30	16	20	21	27	36	30	26	24	30	28	30	29	40	23	20	24	20	20	20	..	[a]33.4
	Minimum	−	19	20	17	25	24	20	18	19	17	8	10	1	−9	10	18	15	14	10	12	10	16	15	16	15	11	10	8	−5	−5	..	[a]12.4
Carson	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Crosby	Maximum	60	53	57	52	54	55	46	33	35	26	26	22	22	33	35	32	32	26	35	31	30	31	30	37	35	35	31	26	24	24	..	35.9
	Minimum	29	20	32	31	30	32	31	22	16	24	9	7	5	5	9	21	20	20	14	10	14	15	15	14	12	12	19	15	−8	−4	..	16.4
Devils Lake	Maximum	45	50	53	51	62	48	42	36	33	40	28	22	21	26	27	24	32	38	27	28	21	37	37	38	23	43	30	22	20	23	..	34.2
	Minimum	30	24	32	22	40	29	31	24	23	28	17	11	6	7	18	16	22	24	24	9	4	13	14	20	18	18	15	9	3	0	..	18.4
Dickinson	Maximum	56	54	61	58	55	54	43	35	44	43	28	26	26	28	32	32	28	40	50	40	38	36	45	44	32	34	28	27	22	34	..	39.1
	Minimum	41	20	29	22	31	35	32	27	25	28	15	14	13	4	22	15	23	23	17	28	12	21	17	25	17	15	17	11	−2	18	..	20.5
Donnybrook	Maximum	51	54	59	59	62	50	42	32	32	32	25	19	9	17	27	29	29	32	29	30	24	34	37	40	31	35	32	23	16	25	..	34.2
	Minimum	28	20	30	16	39	28	28	22	11	23	8	10	4	−8	10	10	18	19	7	13	13	6	14	27	15	21	12	9	−1	10	..	15.4
Dunseith	Maximum	49	50	51	48	61	54	42	35	−	31	26	13	14	12	28	23	29	32	26	25	18	30	34	39	27	35	26	23	23	21	..	[a]31.9
	Minimum	28	22	24	18	35	31	31	21	15	26	13	8	11	10	12	17	16	26	20	15	6	6	8	6	5	11	11	4	1	4	..	15.4
Edgeley	Maximum	57	56	62	56	68	59	49	44	40	46	41	41	26	30	37	33	34	45	35	34	30	44	45	43	39	48	25	35	31	39	..	42.4
	Minimum	32	29	27	24	33	34	31	33	19	31	20	17	13	5	7	20	23	17	26	16	15	9	20	26	22	13	41	18	8	12	..	21.4
Fessenden §§	Maximum	51	55	60	56	71	53	42	38	36	43	29	25	24	29	30	26	33	29	28	27	29	42	45	41	31	45	32	24	25	28	..	37.6
	Minimum	33	30	26	18	29	35	29	29	21	27	12	14	6	2	11	17	18	8	22	17	7	9	15	20	20	15	18	18	4	5	..	17.5
Forman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Fullerton	Maximum	56	52	62	51	61	60	46	44	41	46	38	31	28	32	34	36	40	43	47	37	30	43	45	43	35	42	40	35	31	39	..	42.3
	Minimum	35	26	30	25	33	34	36	34	20	32	22	19	12	14	6	15	18	16	33	18	14	13	19	25	14	13	23	15	9	13	..	21.2
Garrison	Maximum	54	54	61	62	63	56	43	42	44	37	27	25	24	29	28	31	36	40	40	32	35	39	45	42	36	45	36	27	21	28	..	39.4
	Minimum	34	21	24	18	35	36	32	26	18	27	14	13	12	0	11	24	24	19	21	19	20	17	19	32	20	24	21	9	2	12	..	20.1
Grafton §§	Maximum	42	53	52	49	57	48	47	40	38	39	30	−	27	27	28	27	31	42	30	29	21	28	32	36	26	24	29	27	21	23	..	[a]34.6
	Minimum	30	19	27	20	25	33	29	29	28	28	21	6	−	5	4	0	−2	4	25	21	5	0	8	1	20	7	4	1	7	−1	..	[a]13.9
Granville	Maximum	60	65	60	60	65	47	44	35	34	35	24	22	20	23	30	30	35	29	28	28	27	35	45	35	38	40	38	40	25	20	..	37.1
	Minimum	30	23	34	23	30	26	20	18	21	18	17	2	−1	−8	5	0	0	4	8	8	−4	5	5	15	15	18	15	20	0	−5	..	12.0
Hannah	Maximum	48	49	50	51	60	49	48	45	38	37	27	20	25	29	30	31	33	36	33	28	27	32	33	30	32	35	30	22	20	22	..	35.0
	Minimum	22	16	22	23	28	26	21	15	22	19	16	9	0	−6	5	9	19	21	17	10	−1	−10	9	19	10	12	18	5	−2	−5	..	12.2
Hansboro	Maximum	43	50	54	52	65	48	40	34	28	34	33	22	17	26	26	24	32	34	−	−	−	−	−	−	−	37	24	22	25	30	..	[a]34.8
	Minimum	26	22	25	20	32	22	32	25	10	26	15	10	4	1	4	14	14	18	−	−	−	−	−	−	−	15	4	6	10	15	..	[a]16.1
Hettinger	Maximum	53	53	62	63	65	56	45	44	49	41	32	31	30	32	41	29	42	44	53	42	39	44	57	41	32	41	33	28	33	36	..	43.0
	Minimum	41	19	29	23	29	32	32	28	28	28	19	15	15	7	24	16	26	23	16	29	12	24	20	32	25	21	22	16	4	22	..	22.6
Howard	Maximum	52	53	57	60	61	54	39	32	32	32	21	18	18	21	31	30	31	35	34	22	23	33	37	37	32	29	27	21	16	14	..	33.4
	Minimum	27	28	27	22	35	26	27	24	17	16	3	4	3	−5	15	15	7	20	10	14	2	6	14	25	13	16	15	3	−6	5	..	14.2
Jamestown §§	Maximum	52	55	61	51	69	53	44	42	37	44	36	30	25	32	30	26	34	42	34	34	30	44	44	43	28	45	36	34	28	33	..	39.9
	Minimum	42	28	27	22	24	37	34	32	22	26	18	16	10	4	4	12	18	20	24	18	10	18	18	22	15	20	15	15	6	6	..	19.4
Lakota	Maximum	45	47	49	48	54	45	41	40	32	34	33	22	21	18	24	20	30	34	30	24	30	26	29	35	29	41	26	30	26	20	..	32.8
	Minimum	28	20	28	18	35	29	28	25	22	31	18	15	6	2	11	12	18	22	26	15	4	1	4	−6	18	18	16	11	1	3	..	15.8
Lamoine	Maximum	55	54	58	53	66	−	−	−	−	35	30	25	20	28	30	25	30	38	29	28	27	38	46	48	38	42	31	30	24	28	..	[a]36.8
	Minimum	32	20	19	15	31	−	−	−	−	19	17	11	7	1	11	19	20	9	21	15	15	9	14	−	19	15	14	9	2	11	..	[a]15.0
Langdon	Maximum	39	49	48	50	58	45	37	32	34	35	23	21	19	22	25	24	31	38	25	25	24	25	34	34	25	35	25	19	16	23	..	31.3
	Minimum	29	20	35	18	19	29	29	30	18	25	18	11	3	0	8	5	15	16	22	20	0	2	4	6	18	19	10	6	0	0	..	14.5
Larimore §§	Maximum	42	51	52	50	48	44	45	39	37	38	32	27	28	31	27	27	28	40	28	28	22	30	39	35	32	30	24	33	22	24	..	34.4
	Minimum	37	24	27	21	28	38	38	32	23	26	20	12	9	6	10	3	13	20	25	22	3	−3	11	22	21	18	17	12	4	6	..	17.8
Lisbon §§	Maximum	54	62	60	52	54	50	48	46	38	36	40	41	26	28	22	24	32	35	30	26	24	30	32	29	28	30	34	34	31	30	..	36.9
	Minimum	32	32	36	22	27	38	32	30	20	24	26	18	22	4	16	4	16	19	26	20	12	8	24	25	18	18	16	0	11	2	..	19.9
McHenry	Maximum	56	50	60	50	63	56	42	40	33	40	34	24	23	25	28	34	35	31	28	24	29	39	41	34	42	35	34	25	24	25	..	36.8
	Minimum	30	19	30	16	36	35	28	25	22	30	17	14	−3	0	12	19	22	23	17	2	12	20	29	17	18	16	17	12	4	10	..	18.3
McKinney	Maximum	53	58	60	60	66	53	42	32	42	34	25	22	22	18	28	31	32	35	30	30	28	35	40	36	32	37	28	20	19	27	..	35.8
	Minimum	28	24	30	15	30	28	25	25	18	20	10	10	0	2	10	19	15	10	10	10	9	0	0	0	10	15	15	0	−3	3	..	12.9
Manfred	Maximum	50	52	59	55	65	49	42	38	36	41	33	25	23	24	29	27	32	38	30	28	28	40	43	42	32	40	33	26	32	28	..	37.4
	Minimum	33	21	33	18	39	35	32	30	24	20	18	15	5	1	12	12	21	11	22	16	11	13	16	32	20	20	20	15	5	14	..	19.8
Marmarth	Maximum	54	56	60	68	66	57	42	44	56	41	32	30	31	40	43	33	43	45	55	40	35	43	50	41	31	36	32	21	26	34	..	42.8
	Minimum	31	23	30	27	37	35	32	24	29	25	16	12	16	11	21	16	23	23	15	23	10	24	29	29	14	13	21	14	−2	15	..	21.2
Minot §§	Maximum	50	57	61	60	65	44	38	35	40	37	23	22	23	39	28	32	34	32	31	29	30	40	43	37	33	42	30	20	23	22	..	36.7
	Minimum	30	24	25	11	21	37	25	30	15	14	14	12	9	0	3	20	21	15	12	15	16	11	13	20	11	18	18	14	4	3	..	16.0
Mott	Maximum	65	62	68	66	63	58	53	53	47	40	35	30	26	22	22	26	33	36	42	37	34	38	32	35	33	27	23	26	26	21	..	39.3
	Minimum	33	20	25	30	31	33	35	32	27	30	16	14	19	11	4	8	13	20	30	13	11	17	14	15	11	8	4	5	0	7	..	17.9
Napoleon §§	Maximum	55	57	60	65	67	60	40	43	41	45	34	30	25	29	40	32	33	35	35	33	31	39	50	49	35	46	37	34	27	37	..	41.5
	Minimum	35	24	26	18	20	30	33	30	22	28	18	13	8	2	9	19	20	10	20	23	18	10	18	22	21	15	19	12	3	3	..	18.3
New England	Maximum	56	50	56	58	62	60	47	47	52	48	45	42	34	34	36	41	44	44	52	44	43	43	55	45	36	36	34	32	32	34	..	44.7
	Minimum	28	22	26	28	26	26	28	28	24	20	15	12	10	6	11	11	14	16	20	6	20	24	18	24	18	18	20	10	5	18	..	18.4
New Rockford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	54	55	66	62	67	65	58	52	45	45	31	28	26	32	35	31	40	43	43	43	38	38	48	48	42	47	40	30	27	33	..	43.7
	Minimum	38	24	30	31	33	37	31	25	21	25	16	12	10	4	21	22	15	21	10	22	15	17	20	30	26	22	18	14	2	14	..	20.9
Orange	Maximum	55	45	50	65	67	57	40	46	50	40	35	34	32	34	43	36	43	47	51	41	40	45	56	43	38	46	38	33	33	40	..	44.1
	Minimum	30	18	19	28	28	31	30	27	18	27	13	6	15	14	21	12	25	31	16	22	11	14	25	31	22	27	18	10	1	14	..	20.1
Oriska	Maximum	58	52	58	52	49	52	50	40	49	42	38	36	26	28	26	22	32	36	−	−	−	−	−	41	32	−	−	41	32	32	..	[a]40.2
	Minimum	46	28	28	32	32	29	30	20	22	36	22	15	8	10	8	4	18	18	−	−	−	−	−	5	22	−	−	6	6	1	..	[a]19.4
Park River	Maximum	49	51	52	51	−	60	46	41	34	36	35	25	24	28	26	21	35	41	34	27	18	30	30	35	29	31	25	24	19	21	..	[a]33.7
	Minimum	27	23	24	24	−	18	35	32	26	30	21	11	9	7	12	3	17	24	26	24	5	5	9	14	21	19	15	11	5	8	..	[a]17.4
Pembina §§	Maximum	48	54	47	55	44	46	39	40	40	30	32	24	22	24	20	30	41	36	28	22	24	32	34	26	28	24	26	18	16	24	..	32.5
	Minimum	28	21	25	24	28	32	34	26	24	32	20	14	8	6	9	2	18	24	22	12	2	4	10	20	22	18	12	10	0	−6	..	16.7
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	50	51	56	53	66	54	41	35	34	35	30	21	20	23	28	26	29	34	32	27	22	35	38	37	35	39	33	25	15	26	..	35.3
	Minimum	28	20	34	16	42	34	31	27	15	29	14	13	4	−1	10	15	22	14	21	12	8	7	5	25	17	15	14	10	0	6	..	16.9
Turtle Lake	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
University	Maximum	45	50	54	47	57	45	47	40	40	41	33	27	26	23	25	21	32	42	38	30	18	29	34	36	26	29	26	26	20	24	..	34.4
	Minimum	28	22	26	24	30	34	34	27	26	33	23	16	10	7	10	4	21	25	25	13	4	6	10	26	23	21	17	12	4	3	..	18.8
Wahpeton §§	Maximum	55	53	61	61	71	60	52	44	48	52	41	55	52	45	45	30	32	56	36	45	31	41	43	50	30	41	40	37	28	39	..	45.8
	Minimum	40	24	30	26	27	29	34	34	23	27	23	19	18	15	12	0	10	10	27	22	9	12	15	18	26	22	21	15	10	10	..	20.3
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	53	45	52	52	51	64	49	46	30	32	34	21	18	17	22	33	35	30	30	34	21	24	33	35	39	41	38	28	16	19	..	34.7
	Minimum	28	19	21	20	17	29	39	25	8	23	10	11	−2	−2	−3	15	19	18	21	8	0	3	4	14	16	17	9	8	−4	−4	..	12.9
Williston	Maximum	56	54	59	64	64	51	39	34	40	37	24	22	25	25	33	35	40	38	43	32	33	37	43	43	38	43	31	22	24	26	..	38.7
	Minimum	32	23	30	24	34	33	32	26	28	18	14	12	8	1	16	21	23	25	18	21	12	23	22	28	24	28	21	9	4	12	..	20.9
Willow City	Maximum	19	51	54	54	66	58	38	38	34	35	32	22	20	24	28	25	29	35	29	26	21	33	38	36	29	38	28	24	13	23	..	34.1
	Minimum	26	20	30	14	33	27	25	28	17	30	13	11	0	−1	10	15	18	15	20	8	1	3	4	21	16	12	8	4	−3	0	..	11.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
TRACE
TRACE
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
C.A.O'B

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

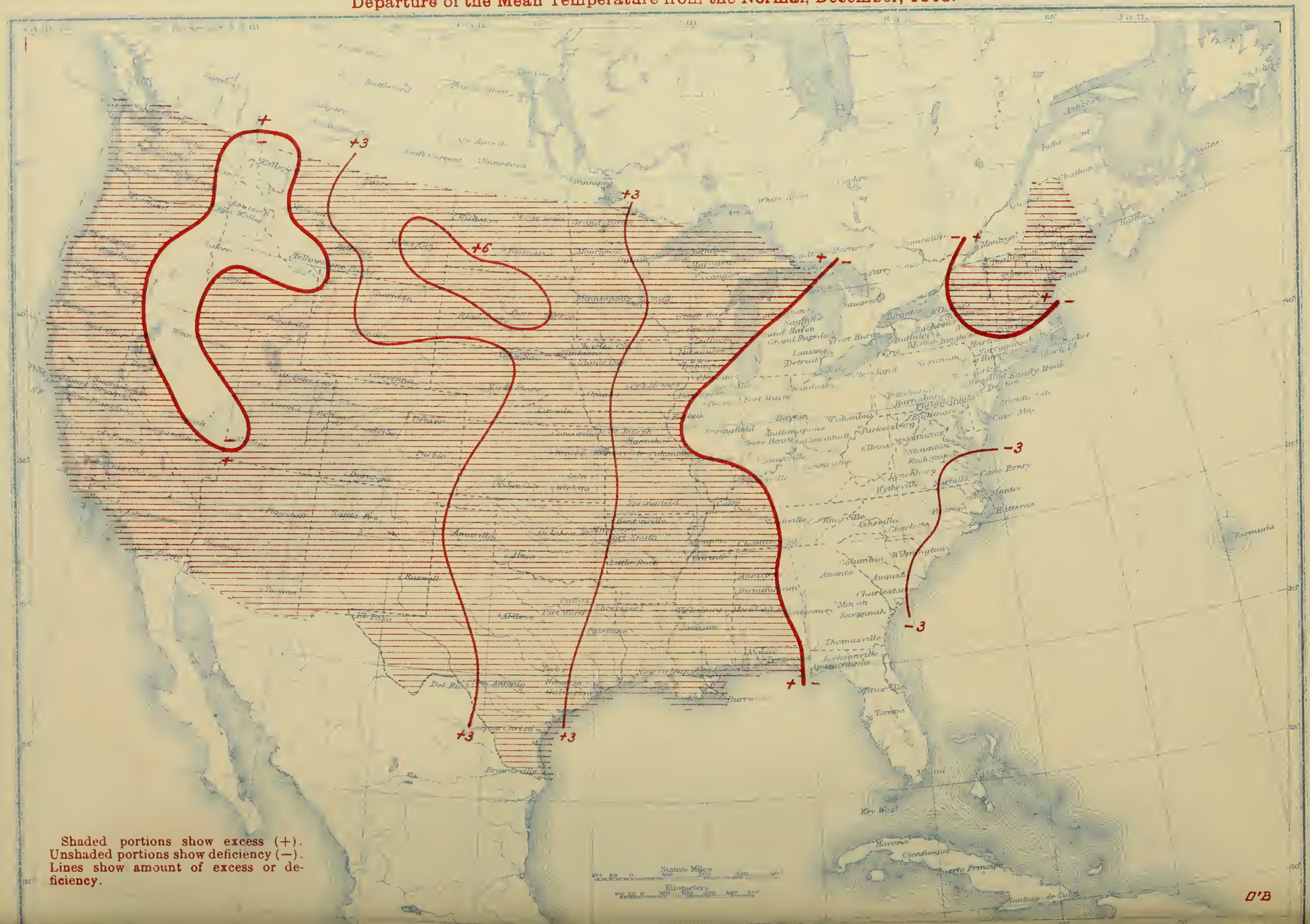
NORTH DAKOTA SECTION

DECEMBER, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 28, 1916.

Departure of the Mean Temperature from the Normal, December, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXV. BISMARCK, N. D., DECEMBER, 1915. No. 12.

GENERAL SUMMARY.

Mild and pleasant weather prevailed throughout the State during the month. The temperature averaged above the normal, due principally to high night temperatures. The precipitation was nearly normal, and consisted mostly of snow. The mild weather and absence of severe storms allowed the completion of late threshing and other outdoor work. The general snows were of great benefit to cattle upon the ranges, and at the close of the month cattlemen report livestock to be in excellent shape.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.04 inches. The highest was 30.49 inches at Bismarck on the 1st; the lowest was 29.29 inches at Williston on the 28th.

TEMPERATURE.

The mean temperature for the State was 15.8°, or 2.9° above the normal, and 10.4° higher than the mean for December, 1914. The highest mean reported was 23.2° at Carson, Morton County; the lowest was 9.6° at Cando, Towner County. The highest temperature reported was 57° at Mott, Hettinger County, on the 8th, and at Turtle Lake, McLean County, on the 4th; the lowest was −27° at Willow City, Bottineau County, on the 17th. The greatest daily range was 46° at McLeod, Ransom County, on the 27th. The greatest monthly range of temperature was 70° at Marmarth, Slope County; the least was 42° at Carson, Morton County. The distribution of temperature was quite uniform. Usually the highest temperature occurred on the 7th, and the lowest on the 27th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 87.8 per cent, the average at 7 a. m. being 89.7 per cent, and at 7 p. m. 86.0 per cent.

PRECIPITATION.

The average precipitation for the State was 0.52 inch, or 0.01 inch above the normal, and 0.02 inch more than the average for December, 1914. The greatest monthly amount reported was 2.10 inches at Hansboro, Towner County; the least was none at Orange, Adams County, and Plaza, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 0.80 inch at Westhope, Bottineau County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 5. The distribution of precipitation over the State was quite uniform. Throughout the month, however, the distribution was not nearly so uniform. A stormy period extended from the 10th to the 16th, inclusive, while scattered precipitation occurred during the remainder of the month. Nearly all of the precipitation occurred in the form of snow.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.1 miles. The greatest wind movement was 6,851 miles at Devils Lake, an average of 9.2 miles per hour; the least was 5,208 miles at Williston, an average of 7.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 46 miles per hour from the north at University (Grand Forks) on the 26th.

SUNSHINE AND CLOUDINESS.

There was a deficiency of sunshine; the average number of clear days was 11, partly cloudy days 9, and cloudy days 11.

ERRATA, NOVEMBER, 1915.

Page 84: Total snowfall at Donnybrook should be 10.0 inches.
Page 86: Minimum temperature at Williston on the 8th should be 27°.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1891...	16.1	+3.2	50	−41	1.33	+0.82	4	12	8	11	nw.
1892...	7.1	−5.8	60	−39	0.57	+0.06	4	13	8	10	nw.
1893...	4.7	−8.2	55	−36	0.85	+0.34	6	11	9	11	nw.
1894...	19.1	+6.2	70	−32	0.29	−0.22	2	16	7	6	nw.
1895...	13.8	+0.9	62	−32	0.29	−0.22	3	12	9	10	nw.
1896...	16.4	+3.5	53	−35	0.37	−0.14	3	13	9	9	nw.
1897...	10.8	−2.1	69	−35	0.22	−0.29	3	12	8	11	nw.
1898...	12.1	−0.8	55	−38	0.24	−0.27	3	14	9	8	nw.
1899...	12.8	−0.1	60	−26	0.32	−0.19	3	13	7	11	nw.
1900...	17.3	+4.4	58	−29	0.31	−0.20	4	13	8	10	nw.
1901...	12.4	−0.5	61	−43	0.74	+0.23	5	10	7	14	nw.
1902...	7.8	−5.1	49	−35	0.58	+0.07	4	14	7	10	nw.
1903...	11.6	−1.3	57	−33	0.77	+0.26	6	11	7	13	nw.
1904...	14.2	+1.3	55	−43	0.62	−0.49	5	7	8	16	nw.
1905...	15.3	+2.4	55	−34	0.16	−0.35	4	16	2	13	nw.
1906...	8.4	−4.5	48	−40	1.07	+0.56	6	11	7	13	nw.
1907...	20.1	+7.2	68	−26	0.30	−0.21	3	15	7	9	nw.
1908...	14.4	+1.5	62	−37	0.38	−0.13	3	13	10	8	nw.
1909...	5.2	−7.7	54	−42	1.27	+0.76	7	9	8	14	nw.
1910...	12.9	0.0	56	−34	0.42	−0.09	4	12	8	11	nw.
1911...	14.9	+2.0	61	−33	0.39	−0.12	4	10	8	13	nw.
1912...	18.9	+6.0	72	−28	0.43	−0.08	4	14	8	9	nw.
1913...	22.7	+9.8	61	−21	0.07	−0.44	1	18	6	7	nw.
1914...	5.4	−7.5	57	−42	0.50	−0.01	4	12	9	10	nw.
1915...	15.8	+2.9	57	−27	0.52	+0.01	5	11	9	11	nw.

Climatological Data for December, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	19	15.2	+2.6	42	7	−11	27	39	0.16	−0.28	0.10	.....	2	25	0	6	s.	E. T. Carley
Aplin	Oliver	1,900	8	20.4	.....	48	23	−10	31	34	0.55	.....	0.10	5.5	10	10	11	10	w.	J. B. Hagelbarger
Ashley	McIntosh	2,001	18	18.8	+5.0	45	7	− 9	14	33	0.40	+0.08	0.10	4.0	4	20	2	9	nw.	R. C. Miles
Beach	Golden Valley	2,576	9	18.6	.....	37	† 6	−11	31	32	0.58	.....	0.32	2.5	4	18	8	5	nw.	D. J. Steiner
Berthold Agency†‡	McLean	2,082	21	19.6	+2.6	45	22	−15	31	42	0.17	−0.22	0.06	3.4	3	8	12	11	nw.	C. L. Hall
Bismarck	Burleigh	1,674	41	19.8	+4.8	44	22	− 6	27	34	0.39	−0.23	0.19	4.6	8	10	10	11	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	23	9.0	+1.5	32	† 4	−20	27	41	0.59	+0.04	0.11	.....	10	7	8	16	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	3	11.5	.....	41	21	−13	26	36	0.55	.....	0.40	.....	2	10	1	20	.....	G. H. Phelps
Bowman	Bowman	.....	1	22.5	.....	52	9	−16	31	40	T.	.....	T.	T.	0	17	0	14	.....	L. S. Diehl
Buford	Williams	1,944	36	21.8	+7.8	48	7	0	†18	31	0.42	−0.16	0.25	4.2	3	10	13	8	nw.	P. Elmore
Cando	Towner	1,488	14	[c] 9.6	.....	[c]35	7	−18[e]	†17	[e]40	0.16	.....	0.15	.....	2	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	3	[f]23.2	.....	[f]40	†22	− 2	26	[f]46	0.35	.....	0.10	3.5	5	15	2	14	nw.	J. W. Evans
Colgate	Steele	1,177	1	13.5	.....	40	22	−12	27	33	0.50	.....	0.30	5.0	2	19	2	10	n.	H. P. Rice
Cooperstrwn	Griggs	1,428	5	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	4.0	1	17	9	5	nw.	S. Friswold
Crosby	Divide	1,954	8	[d]15.3	.....	[d]37	† 6	−19[d]	31	[d]40	0.20	.....	0.10	2.0	3	.....	.....	.....	.....	H. G. Anderson
Devils Lake	Ramsey	1,482	11	12.4	+4.4	36	22	−14	17	36	0.64	+0.25	0.28	6.5	9	6	7	18	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	23	19.8	+1.4	42	† 3	−12	†30	32	0.22	−0.23	0.10	2.2	8	5	18	8	nw.	L. R. Waldron
Donnybrook	Ward	1,760	16	14.8	+0.5	39	6	−12	14	37	0.61	+0.07	0.23	4.0	4	10	17	4	nw.	Geo. Michel
Dunseith	Rolette	1,682	19	11.0	+1.8	36	7	−18	27	31	1.45	+1.06	0.50	14.5	6	9	9	13	nw.	J. G. Lamont
Eckman	Bottineau	.....	10	[a]10.8	.....	[a]38	† 6	−21[a]	31	[a]37	0.41	.....	0.35	5.0	3	.....	.....	.....	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	14	20.4	+5.5	47	8	− 9	14	32	0.30	−0.15	0.10	4.5	4	5	10	16	nw.	O. A. Thompson
Energy †‡	McLean	.....	3	.....	.....	.....	.....	.....	.....	.....	0.13	.....	0.08	1.0	3	12	11	8	se.	N. W. Solenberger
Epping	Williams	2,224	7	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.40	8.0	6	21	3	7	w.	M. E. Uggen
Fessenden	Wells	1,610	3	14.0	.....	40	† 6	−15	†14	38	0.54	.....	0.10	4.8	8	14	6	11	nw.	G. T. Seymour
Forman	Sargent	1,249	23	19.2	+4.2	45	7	−10	27	31	0.70	+0.21	0.40	7.0	2	5	8	18	nw.	A. Maltby
Fullerton	Dickey	1,439	17	18.2	+4.0	45	7	−12	17	36	0.66	−0.20	0.42	6.6	4	10	8	13	nw.	F. O. Alin
Garrison	McLean	1,901	20	17.6	+2.8	46	4	−16	31	33	0.66	+0.16	0.22	6.5	6	9	15	7	nw.	G. L. Robinson
Goodall	McKenzie	2,200	1	14.5	.....	41	4	−21	31	35	0.80	.....	0.70	3.0	2	10	7	14	nw.	C. H. Layman
Grafton	Walsh	827	23	11.4	+3.2	36	7	−23	27	45	0.80	+0.30	0.24	7.5	8	9	8	14	n.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	.....	16.6	.....	45	7	−15	14	38	0.70	.....	0.40	7.0	5	16	0	15	se.	G. H. Leick
Granville	McHenry	1,504	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christiansou
Hannah	Cavalier	1,568	10	[k]10.9	.....	[k]34	7	−21[k]	17	[k]37	1.50	.....	0.50	15.0	5	.....	.....	.....	.....	J. Moffatt
Hansboro	Towner	1,597	7	10.7	.....	35	7	−18	27	30	2.10	.....	0.60	21.0	6	13	4	14	nw.	C. E. Blackorby
Hettinger	Adams	2,253	7	19.8	.....	55	3	−12	31	42	0.39	.....	0.15	.....	5	14	10	7	nw.	A. J. Ogaard
Hillsboro	Traill	901	9	15.4	.....	39	7	−14	27	28	0.60	.....	0.20	6.0	5	9	12	10	nw.	F. E. Mayall
Howard	Williams	2,275	6	15.0	.....	42	3	−14	31	29	0.80	.....	0.25	8.0	5	9	10	12	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	23	15.5	+0.8	[a]40	† 7	−10	27	[a]43	0.97	+0.23	0.25	6.2	7	8	7	16	nw.	S. Calvelage
Lakota	Nelson	1,579	14	10.5	+0.9	33	22	−19	27	33	0.43	−0.50	0.25	4.5	6	12	17	2	nw.	C. R. Pettes
Lamoine	Kidder	1,936	7	[e]15.4	.....	[e]38	† 2	−15[e]	17	[e]28	0.25	.....	0.20	2.5	2	.....	.....	.....	nw.	E. V. Virgin
Langdon	Cavalier	1,615	19	10.3	.....	32	†† 4	−23	27	43	1.10	.....	0.30	11.0	4	4	14	13	nw.	R. T. Burke
Larimore	Grand Forks	1,134	20	14.2	+2.7	38	7	−15	27	40	0.31	−0.08	0.10	.....	6	9	4	18	nw.	G. G. Graham
Lisbon	Ransom	1,091	11	13.0	−2.2	34	6	−18	†30	40	0.30	−0.33	0.30	3.0	1	18	7	6	nw.	W. S. Adams
McHenry	Foster	1,509	5	12.1	.....	38	† 7	−18	17	37	T.	.....	T.	T.	0	27	2	2	s.	P. E. Trnden
McKinney	Renville	1,640	21	14.4	+3.1	43	6	−15	14	40	0.20	−0.23	0.15	2.0	2	6	21	4	nw.	N. P. Swenson
McLeod	Ransom	1,075	3	17.9	.....	46	7	−15	27	46	0.25	.....	0.20	2.5	2	9	9	13	nw.	E. W. Griggs
Maddock	Benson	.....	.....	14.3	.....	39	7	−16	17	36	0.17	.....	0.14	1.7	3	18	13	0	se.	W. M. Jackson
Mandan	Morton	1,644	1	18.8	.....	44	7	− 7	31	33	0.14	.....	0.09	.....	5	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	12	15.6	+3.2	40	7	−15	27	35	0.54	−0.32	0.20	7.0	6	12	12	7	nw.	P. B. Anderson
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	0.17	.....	0.08	.....	3	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	6	[b]21.2	.....	[b]54	9	−16	31	[b]34	0.32	.....	0.09	9.4	5	12	10	9	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	19	15.7	+1.8	38	7	−14	29	43	0.67	+0.20	0.30	6.5	6	9	4	18	nw.	W. C. Gould
Melville	Foster	1,590	17	[d]15.4	+3.1	[d]34	† 6	−20[l]	28	[d]45	0.75	+0.40	0.40	4.5	3	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	3	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.50	5.5	2	14	9	8	se.	Hj. Edman
Minot	Ward	1,557	19	15.0	+1.3	43	6	−12	19	41	0.70	+0.33	0.30	7.0	6	7	13	11	nw.	W. I. Faris
Minto	Walsh	820	22	12.8	+1.9	35	7	−17	27	31	0.55	+0.09	0.37	6.0	3	12	8	11	nw.	C. M. Evans
Mott	Hettinger	2,424	8	19.9	.....	57	8	−20	30	40	0.51	.....	0.17	4.0	6	16	10	5	nw.	O. H. Opland
Napoleon	Logan	1,955	23	15.8	+2.8	43	22	−22	16	43	0.30	−0.19	0.15	3.5	3	15	6	10	nw.	C. J. Hoof
New England	Hettinger	2,400	21	21.6	+3.1	47	5	−14	31	34	0.20	−0.22	0.10	2.0	2	10	19	2	nw.	J. M. Connolly
New Rockford	Eddy	1,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Maxwell
New Salem	Morton	2,163	10	19.7	+3.1	45	2	−10	31	33	0.35	+0.01	0.10	3.5	7	11	11	9	nw.	J. Christiansen
Orange †‡	Adams	2,586	6	20.0	.....	48	6	−14	31	44	0.00	.....	0.00	0	0	13	9	9	nw.	J. E. Goforth
Oriska	Barnes	1,270	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	11	12.7	−0.4	37	7	−15	27	26	0.28	−0.18	0.11	2.8	5	13	4	14	s.	F. A. McCray
Pembina	Pembina	789	41	11.8	+5.2	34	4	−12	17	26	0.40	−0.45	0.15	4.0	5	8	12	11	nw.	C. W. Shumaker
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	19	9	3	nw.	J. A. Johnson
Power	Richland	1,020	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.30	5.0	2	3	11	17	nw.	C. Frank
Ranger	Slope	2,408	3	.....	.....	.....	.....	.....	.....	.....	0.58	.....	0.21	6.0	7	10	2	19	nw.	C. M. Hubbard
St. John	Rolette	1,946	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Lyman
Steele	Kidder	1,857	18	17.8	+3.4	45	4	− 7	13	29	0.53	+0.15	0.13	8.0	7	6	18	7	se.	H. S. Wood
Towner	McHenry	1,482	13	12.2	−0.2	38	6	−16	27	35	0.35	+0.06	0.20	3.5	3	7	14	10	nw.	B. Bagley
Turtle Lake	McLean	1,899	3	16.8	.....	57	4	−12	31	45	0.45	.....	0.10	4.5	5	7	21	3	nw.	E. J. Jones
University	Grand Forks	830	23	13.6	+2.3	37	7	−17	27	38	0.62	+0.12	0.36	6.5	8	8	12	11	w.	U. S. Weather Bureau
Van Hook	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. A. Wales
Wahpeton	Richland	962	21	16.4	+0.9	48	7	−18	27	43	0.32	−0.11	0.20	.....	2	15	0	16	se.	F. E. Smith
Walhalla	Pembina	966	8	13.4	.....	37	7	−15	14	27	0.85	.....	0.30	8.5	4	9	6	16	n.	I. DeL. Lee
Washburn	McLean	1,734	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	9	8.6	.....	36	6	−25	17	35	0.80	.....	0.80	8.0	1	10	0	21	nw.	W. A. Meddaugh
Williston	Williams	1,875	36	18.8	+5.3	42	3	− 7	31	26	0.88	+0.22	0.46	7.7	10	4	9	18	w.	U. S. Weather Bureau
Willow City	Bottineau	1,471	23	9.0	−0.7	35	6	−27	17	37	0.86	+0.44	0.40	8.0	5	6	15	10	nw.	M. A. Ostby
Zap	Mercer	1,800	2	19.2	.....	43	2	−13	31	35	0.16	.....	0.07	3.8	7	8	9	14	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	34	16.4	+5.7	41	7	−12	27	34	0.58	−0.16	0.22	5.3	8	11	4	16	nw.	U. S. Weather Bureau
Averages	.....	.....	.....	15.8	+2.9	57	8	−27	17	46	0.52	+0.01	0.80	5.4	5	11	9	11	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for December, 1915.

Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red	T.						T.				T.				.10	.06			T.	T.			T.			T.						0.16
Aplin	Knife						.01				.05		T.		.02			T.	.10							.05	.10		.10	.02	.05		0.55
Ashley	Missouri														.10		.10													.10	.10		0.40
Beach	Lit. Missouri						.32								.18			T.								T.	T.		T.	.05	.03		0.58
Berthold Ageney	Missouri						T.				T.				.06	T.	T.	T.								.06			.05	T.	T.		0.17
Bismarck ***	Missouri	T.					T.				.04	T.	T.		.04		T.	.10	.09		.02					.07			T.	.02	.01		0.39
Bottineau ‖ ‖	Mouse	.02						T.			.03	.02	T.			.08	.09							.06	.05		.11		.02	.11		T.	0.59
Bowbells ‖ ‖	Mouse																.40							.15									0.55
Bowman	Grand											T.			T.	T.													T.	T.		T.	
Buford	Missouri										T.		T.		T.	.25	T.	.02			T.							T.	T.	T.	.15		0.42
Cando	Sheyenne															.15					T.									.01			0.16
Carson	Heart										.05	.05						.05			.10									.10			0.35
Colgate	Sheyenne														.30												.20						0.50
Cooperstown	Sheyenne										T.					.20							T.				T.			T.			0.20
Crosby	Mouse						T.									.05		T.	.05		T.		T.				.10				T.	T.	0.20
Devils Lake ***	Sheyenne						.01			T.	.06		.01		.10	.18							.18			.08		T.	.01	.01	T.		0.64
Dickinson	Heart						.01										T.		.02		.02	T.				.01		.01	.02	.03	.10		0.22
Donnybrook	Mouse										T.		T.		T.	.23			.01							T.	T.	T.	.35	.02			0.61
Dunseith	Mouse															.50						T.	.30			.15	.05		.25			.20	1.45
Eckman	Mouse										T.		T.		T.	.35			T.				T.			.01	T	.05	T.		T.		0.41
Edgeley	James											T.	T.		.10				.05											.10	.05		0.30
Energy	Missouri	T.					T.						.02		.08														.03				0.13
Epping	Missouri						T.								.10	.40	.08									.10				.12	.08		0.88
Fessenden ‖ ‖	James	.02						T.			.09	.04	.10						.05				.10	T.			.10		T.	.04			0.54
Forman	Sheyenne												T.			.40			.30				T.										0.70
Fullerton	James										T.				T.	.42			.14										T.	.06	.04		0.66
Garrison	Missouri						.02				T.		.05		.20				.09							T.			.22	T.	.08		0.66
Goodall	Missouri														.10	.70																	0.80
Grafton ‖ ‖	Red											.05				.10	.24							.09	.08		.17	.05	.02				0.80
Grand Rapids	James	T.									.05				.40				.05							T.				.20			0.70
Granville	Mouse																																
Hannah	Pembina	.50					T.				.30				.10	.20										.40							1.50
Hansboro	Red										.20					.40							.60			.40			.30	.20			2.10
Hettinger	Grand										15				T.				.12		.02					T.			.01	.09	T.		0.39
Hillsboro	Red						T.				.05					.20	.10					T.		.20			.05			T.			0.60
Howard	Missouri	T.					T.				T.					.20	T.	.20			T.		T.			.15		T.	T.	*	.25		0.80
Jamestown ‖ ‖	James	.25						T.				.20				.20				.05		.02	.10		T.		T.				T.	.15	0.97
Lakota	Sheyenne						.25				.04					.06							.04			.02						.02	0.43
Lamoine	Missouri						T.				.20												T.						T.		.05		0.25
Langdon ‖	Pembina							T.			T.	.20				T.	.30							.20				.10				.30	1.10
Larimore ‖	Red											.05											.02	.10			10			.02		.02	0.31
Lisbon ‖	Sheyenne	T.														.30	T.																0.30
McHenry	James						T.																	T.				T.	T.	T.	T.		T.
McKinney	Mouse														.15											.05							0.20
McLeod	Sheyenne															.20	.05																0.25
Maddock	Sheyenne										.02					.01															.14		0.17
Mandan ‖ ‖	Missouri	T.						T.			T.	.01	T.			.02			.09			.01								.01	T.		0.14
Manfred	Sheyenne						T.				.15				T.	.20	T.		.05				T.	T.		.10		T.	.02	T.	.02		0.54
Manning	Knife											.06	.03																				0.17
Marmarth	Lit. Missouri						.01				.09				T.			T.			.08					.06	T.		T.	T.	.08		0.32
Marstonmoor	James																																
Mayville	Red							.15					.01			.30				.05			.15							.01			0.67
Melville	James							T.			.05					.40							.30										0.75
Milnor	Red					T.										.50	.20												T.				0.70
Minot ‖	Mouse						T.				T.	.10	T.			.30	T.	.05	.05								.10		T.	.10	T.	T.	0.70
Minto	Red						T.				T.		.03			.37					T.		T.				15						0.55
Mott	Cannon Ball											.04			.05	.12			.10							.03				.17			0.51
Napoleon ‖	Missouri											.10							.15			.05											0.30
New England	Cannon Ball																										.10			.10			0.20
New Rockford	James																																
New Salem	Heart									.10							T.		.10		.01					.05	.05		.02	.02			0.35
Orange	Cannon Ball																																0.00
Oriska	Sheyenne																																
Park River	Red						T.			T.	.01	T.	T.			.11	T.			T.			.09	.01		T.	.06		T.	T.	T.	T.	0.28
Pembina ‖	Red								.05				.10			.05								.05				15					0.40
Plaza	Missouri																																0.00
Power	Sheyenne																																
Powers Lake	Missouri									T.				T.											T.	.20			.30	T.			0.50
Ranger	Lit. Missouri						.02				.10				.05	T		.05			.05					T.	.10		T.	.21	T.		0.58
St. John	Mouse																																
Steele	Missouri				T.			T.			T.		.01		.13				.20		.10			.01		T.	T.	T.	T.	.03	.05		0.53
Towner	Mouse															.20							T.			.05		.10		T.	T.		0.35
Turtle Lake	Missouri	T.					T.				.05				.10	.10		T.	.10				T.			T.			.10	T.	T.		0.45
University	Red						.05				.03					.36			.01	.02			.03	.01			.11						0.62
Van Hook	Missouri																																
Wahpeton ‖	Red											T.				.12	.20			T.			T.				T.	T.					0.32
Walhalla	Pembina															.30							.20			.20						.15	0.85
Washburn	Missouri																																
Westhope	Mouse						T.									.80							T.			T.							0.80
Williston ***	Missouri						T.			T.	T.		.02		.20	.26	T.	.04	.01							.10	.05		.11	.07	.02		0.88
Willow City	Mouse						.06				T.					.40							T.			.10		.20	.10				0.86
Zap	Knife						T.				.01	T.			.02			.01			.02					.07			.02	T.	.01		0.16
Moorhead, Minn ***	Red	T.					.05				.01					.20	.22		.04				.03				.02			.01	T.		0.58

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1915.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	28	39	34	39	35	37	42	29	33	29	29	28	20	19	21	16	10	11	12	23	22	41	23	22	20	9	19	23	23	18	24	25.1
	Minimum	0	0	9	9	16	25	28	20	20	22	4	7	-2	-6	-5	10	-9	-8	-5	-5	3	3	12	5	-3	-3	-11	10	11	3	3	5.3
Aplin	Maximum	28	40	42	44	36	40	40	36	35	30	23	21	19	18	24	18	20	23	28	32	38	42	48	34	34	32	30	35	33	20	17	31.0
	Minimum	8	14	8	15	15	22	26	12	20	10	2	7	9	6	12	5	10	2	2	6	8	28	18	16	17	1	0	12	3	-4	-10	9.7
Ashley	Maximum	28	41	41	40	33	40	45	38	37	28	24	25	18	16	23	21	16	14	24	31	34	43	35	30	29	30	24	25	26	16	17	28.6
	Minimum	7	14	8	17	14	22	26	19	17	15	1	5	-7	-9	15	2	-8	8	-2	-1	13	24	20	15	13	-2	-5	10	15	6	3	8.9
Beach	Maximum	23	23	28	28	28	37	36	32	35	28	28	20	18	20	22	22	24	30	37	37	36	34	34	30	30	19	20	30	30	0	0	26.4
	Minimum	6	12	10	12	16	19	26	14	28	15	12	12	5	15	10	12	2	19	15	17	22	19	15	20	8	-11	-5	10	-2	-10	-11	10.7
Berthold Agency	Maximum	28	42	42	42	37	42	44	35	34	30	26	26	12	19	22	15	21	20	30	31	43	45	38	32	34	33	24	38	35	12	21	30.7
	Minimum	5	6	10	13	18	19	28	12	21	15	2	8	-4	7	9	5	12	3	15	0	1	26	14	17	11	4	-14	17	3	0	-15	8.6
Bismarck	Maximum	28	43	42	41	34	41	43	37	34	29	22	21	15	19	25	14	18	20	32	29	41	44	37	32	33	26	28	35	28	9	24	29.8
	Minimum	10	14	11	20	19	22	24	18	20	8	4	5	-3	1	9	-1	6	4	-1	8	11	30	19	17	16	-3	-6	15	6	2	-5	9.7
Bottineau §§	Maximum	16	24	30	32	28	32	31	25	26	25	21	8	10	16	19	2	4	6	15	13	30	30	25	30	25	0	21	23	11	9	0	18.9
	Minimum	-1	-1	6	13	18	18	20	11	9	21	-3	1	-8	-12	-1	-4	-24	-17	-16	-14	-5	7	12	-3	-2	-13	-20	-18	9	-1	-12	-1.0
Bowbells §§	Maximum	21	30	32	30	33	27	35	40	30	25	21	20	6	18	20	16	15	11	22	25	41	27	18	20	18	13	23	32	10	8	12	22.5
	Minimum	-1	0	7	10	8	7	5	10	6	-1	3	-3	-8	-11	-6	-4	-5	-8	-4	2	5	20	10	5	-1	-13	-10	3	0	-5	-6	0.5
Carson	Maximum													27	18	30	17	19	23	30	30	38	40	30	40	35	32	30	36	28	24	20	[1]28.8
	Minimum	6	16	18	22	20	16	29	15	21	25	8	20	12	17	10	12	8	7	15	28	30	31	21	30	31	-2	22	27	8	8	8	17.7
Crosby	Maximum	——	26	32	29	30	37	35	28	30	30	24	24	22	19	19	19	20	16	16	23	28	37	33	26	35	26	——	——	——	2	4	[a]24.6
	Minimum	——	5	12	14	19	14	25	15	9	13	5	8	-1	-4	7	7	0	1	2	-3	12	19	11	10	-10	-4	——	——	——	-7	-19	[a]6.0
Devils Lake	Maximum	19	28	31	33	29	36	35	25	27	27	21	16	8	14	22	10	0	8	15	22	26	36	27	18	28	24	17	24	16	9	10	21.3
	Minimum	4	10	6	22	17	25	23	12	23	6	2	-3	-10	-10	10	-13	-14	-6	-8	4	-1	8	12	3	10	-12	-13	16	-1	-1	-8	3.4
Dickinson	Maximum	25	37	42	42	37	38	36	32	40	33	24	22	19	20	22	20	23	23	30	32	38	41	34	35	35	34	24	34	29	7	20	29.9
	Minimum	8	10	7	14	17	19	26	12	22	18	5	12	9	13	10	4	8	10	5	3	14	28	16	15	13	-5	3	7	6	-12	-12	9.8
Donnybrook	Maximum	21	32	31	31	28	39	37	29	30	26	23	22	6	16	18	10	9	12	18	22	31	37	32	24	31	29	16	30	29	5	6	23.6
	Minimum	4	13	8	8	9	15	25	12	18	11	1	1	-7	-12	3	-4	-1	-1	3	12	5	22	12	14	13	-8	8	14	-2	-3	-6	6.0
Dunseith	Maximum	20	33	23	32	28	29	36	32	32	24	20	17	8	18	18	18	10	13	11	22	18	30	28	23	24	22	7	22	22	8	5	21.1
	Minimum	-2	4	9	12	7	20	26	14	12	11	-4	-5	-4	-13	-8	-1	-14	-10	-5	-4	3	9	8	3	5	-6	-18	-5	0	0	-12	1.0
Edgeley	Maximum	31	42	39	41	34	41	45	47	40	39	29	26	26	19	23	23	14	14	25	28	34	42	36	29	39	39	25	24	24	18	24	30.7
	Minimum	8	11	8	18	11	21	31	20	20	17	14	14	-2	-9	14	3	-11	5	2	4	13	11	26	15	11	-2	-4	13	17	5	5	10.0
Fessenden §§	Maximum	26	35	39	36	32	40	40	28	29	29	26	13	8	17	23	8	8	14	23	25	37	40	31	29	29	7	23	26	15	13	16	24.7
	Minimum	4	8	6	10	14	19	25	16	17	21	-4	0	-13	-15	-5	-1	-6	-3	-10	2	0	7	16	10	7	-3	-15	-9	13	1	-10	3.3
Forman	Maximum	34	38	41	39	34	40	45	38	35	30	29	29	28	18	20	22	6	9	15	19	28	41	38	30	34	34	20	23	29	23	22	28.7
	Minimum	3	13	14	24	21	24	30	17	20	25	6	16	-2	-4	15	5	-8	-5	-5	-5	6	10	21	10	7	4	-10	8	21	8	11	9.7
Fullerton	Maximum	29	42	36	42	35	37	45	35	34	28	28	28	13	21	24	24	8	15	20	20	30	43	35	28	30	30	26	23	22	13	22	28.0
	Minimum	5	12	9	20	14	21	31	20	19	18	7	7	-3	-7	7	-12	1	-2	-3	12	7	20	17	11	3	-7	9	12	7	0	8.4	
Garrison	Maximum	26	40	36	46	32	35	38	33	34	30	24	21	18	20	22	13	14	17	28	26	40	42	37	30	31	29	21	32	32	7	17	28.1
	Minimum	6	12	8	17	17	22	27	16	14	15	2	5	-12	-6	12	0	-3	-3	-3	6	10	24	15	14	13	-3	-10	15	3	0	-16	7.0
Grafton §§	Maximum	22	34	27	35	31	35	36	28	28	29	23	17	13	18	22	16	12	14	17	21	20	25	25	18	26	3	22	16	18	15	15	22.0
	Minimum	-3	3	6	7	5	21	26	18	21	20	-3	2	-7	-12	-10	12	-11	-5	-13	-2	-9	2	5	0	-5	-2	-23	10	-15	-3	-6	0.9
Granville	Maximum																																
	Minimum																																
Hannah	Maximum	20	28	27	30	29	32	34	29	28	26	28	18	15	19	21	20	10	12	13	15	——	——	——	——	——	——	——	——	——	——	——	[b]22.7
	Minimum	-4	-6	9	12	16	21	23	5	10	12	-9	-9	-15	-18	-11	-12	-21	-12	-4	-5	——	——	——	——	——	——	——	——	——	——	——	[b]-0.9
Hansboro	Maximum	20	28	30	34	28	33	35	32	30	20	18	18	8	10	20	20	10	11	15	20	13	32	27	23	25	15	-6	22	17	8	10	20.2
	Minimum	10	8	2	10	10	18	24	20	16	8	7	0	-11	-15	9	-10	-17	-10	-15	-2	-10	10	4	2	15	-6	-18	0	-4	-4	-15	1.2
Hettinger	Maximum	31	46	55	48	35	44	40	38	47	27	5	25	20	21	24	23	26	27	31	32	41	42	19	31	39	35	21	31	28	9	21	31.0
	Minimum	11	14	13	13	18	18	25	15	19	6	-5	5	0	11	6	9	-6	10	6	2	17	31	2	15	15	3	-3	15	5	-9	-12	8.7
Howard	Maximum	22	30	42	28	30	37	35	27	32	30	22	21	11	17	16	17	20	16	20	21	31	34	24	20	22	18	18	30	20	16	7	23.7
	Minimum	10	18	15	11	17	21	18	17	20	7	5	1	-4	9	6	-4	12	-4	-3	1	13	23	8	8	10	-10	-8	11	-9	-11	-14	6.3
Jamestown §§	Maximum	34	37	36	37	24	40	23	29	32	27	19	25	15	17	24	12	10	9	22	23	34	10	30	25	32	9	23	24	22	14	——	[a]24.9
	Minimum	4	4	10	9	11	14	23	20	20	22	0	0	-5	1	-8	2	-8	-2	-3	-4	1	10	19	13	10	7	-10	5	15	4	5	6.1
Lakota	Maximum	15	26	28	30	25	29	32	25	24	24	16	11	5	10	16	27	-5	4	13	18	23	33	23	20	24	24	13	23	20	7	10	19.1
	Minimum	-6	5	6	20	16	24	25	14	21	16	-6	-10	-14	-16	-6	-6	-15	-6	-8	0	3	10	10	1	-1	0	-19	6	6	0	-10	1.9
Lamoine	Maximum	24	38	38	36	32	34	37	28	32	24	24	18	8	15	22	19	10	10	21	19	28	38	32	25	——	25	——	——	25	7	13	[c]24.4
	Minimum	11	10	9	18	16	18	24	12	11	18	8	0	-12	-9	11	-3	-15	-3	-3	8	8	12	20	8	——	-3	——	——	6	3	-7	[c]6.3
Langdon	Maximum	22	27	30	32	29	32	31	24	25	26	19	12	7	11	19	14	10	11	15	15	24	24	25	16	26	12	20	23	12	9	3	19.5
	Minimum	-3	3	6	27	15	16	21	12	20	17	-4	2	13	11	-4	-4	-15	-9	-6	-2	-5	5	11	-1	1	-4	-23	-20	9	-3	-5	1.1
Larimore §§	Maximum	21	32	31	36	30	35	38	28	28	29	24	24	25	28	21	13	5	9	16	24	24	28	24	23	27	16	17	19	16	15	15	23.3
	Minimum	-2	7	9	13	11	20	27	18	22	21	2	2	-7	-12	5	5	-12	-2	-3	1	-3	10	15	16	2	1	-15	-5	11	-2	0	5.0
Lisbon §§	Maximum	31	34	29	26	21	34	30	28	31	30	30	24	24	28	24	25	23	28	24	22	28	26	28	24	24	22	22	18	13	20	22	25.9
	Minimum	2	2	8	0	5	10	12	12	6	10	4	2	-4	-10	0	-6	-6	2	10	12	2	-4	-6	-6	10	6	-10	-12	-16	-18	-18	0.6
McHenry	Maximum	21	32	32	33	27	34	38	30	28	24	18	-1	-2	15	21	22	-4	10	20	22	28	38	30	20	22	29	14	24	20	10	10	21.7
	Minimum	-3	11	6	22	15	24	27	14	22	-4	-2	-15	12	-4	14	-10	-18	-4	-5	-11	4	12	13	6	-5	6	-15	-13	5	0	-3	2.5
McKinney	Maximum	28	29	30	28	26	43	40	30	25	28	22	20	5	25	22	15	12	15	20	25	32	42	32	42	30	30	20	32	30	10	10	25.7
	Minimum	3	10	-1	6	6	15	24	12	12	11	-6	-2	-5	-15	-5	-5	-5	-2	-5	0	10	20	20	10	10	-7	12	15	-6	-5	-10	3.0
Manfred	Maximum	25	35	30	38	32	35	40	32	29	28	26	21	19	14	24	22	10	12	18	23	30	38	33	25	29	28	20	28	25	10	10	25.5
	Minimum	5	15	9	20	15	20	28	17	21	20	-3	5	-11	-13	0	0	0	1	-6	3	3	9	13	10	9	-5	5	6	5	2	-6	5.7
Marmarth	Maximum	30	41	49	45	43	41	40	43	54	36	——	27	21	22	20	22	28	24	30	35	41	42	30	——	41	29	26	35	22	5	18	[b]32.4
	Minimum	8	9	15	19	18	31	24	25	24	6	——	12	0	14	8	4	1	8	10	10	16	30	19	——	14	-4	-6	7	0	-15	-15	[b]10.0
Minot §§	Maximum	23	33	32	36	36	43	30	30	35	28	29	10	10	20	26	18	10	11	23	22	40	41	30	28	33	28	24	32	22	13	13	26.1
	Minimum	6	7	8	9	11	13	25	16	15	20	-1	1	8	-11	1	-5	-9	-2	-12	0	-1	2	22	12	15	-4	-10	-5	13	-2	-8	3.8
Mott	Maximum	33	38	49	48	47	51	43	57	41	36	23	28	21	22	25	21	20	26	32	32	40	45	38	30	32	14	23	27	21	14	21	32.2
	Minimum	10	7	10	8	14	21	23	18	16	9	5	6	5	9	11	5	5	8	0	3	10	27	25	12	10	-9	0	-1	2	-20	-14	7.6
Napoleon §§	Maximum	26	39	45	42	37	40	41	40	34	28	24	23	17	22	23	12	16	15	22	30	40	43	35	24	30	10	24	27	15	12	17	27.5
	Minimum	0	4	9	10	15	20	23	14	13	20	-3	4	-11	-6	4	-22	-14	-1	-4	2	-3	15	23	12	14	0	-12	-6	17	-5	-1	4.1
New England	Maximum	29	32	34	37	47	40	42	40	42	38	37	35	38	40	36	22	28	30	32	38	36	42	38	36	35	20	26	35	30	20	20	34.0
	Minimum	8	12	12	16	14	10	8	12	14	11	14	16	14	8	2	7	12	12	10	16	18	16	12	13	7	-6	-2	12	6	-7	-14	9.1
New Rockford	Maximum																																
	Minimum																																
New Salem	Maximum	30	45	42	40	35	41	42	38	34	27	25	21	27	17	22	23	18	21	29	32	37	42	39	34	33	32	27	37	33	8	22	30.7
	Minimum	7	15	12	14	14	14	22	15	17	1	8	7	-6	4	7	10	7	7	4	7	17	28	17	17	16	0	-6	7	3	-4	-10	8.7
Orange	Maximum	33	50	51	54	37	48	44	42	41	27	27	24	20	20	23	22	22	26	32	31	42	43	39	28	35	27	28	35	27	8	20	32.5
	Minimum	7	11	10	10	16	16	24	10	20	2	-4	5	-3	9	9	-2	-4	5	2	3	9	29	25	10	17	3	-5	15	5	-7	-14	7.4
Oriska	Maximum																																
	Minimum																																
Park River	Maximum	21	32	21	33	25	33	37	32	27	29	25	18	11	12	20	21	0	8	12	23	16	22	21	25	22	24	11	19	15	5	10	20.1
	Minimum	1	11	7	14	10	19	27	20	22	21	3	2	-5	-8	-5	-2	-8	-3	-1	5	-7	12	16	6	5	-1	-15	4	5	-5	-5	5.0
Pembina §§	Maximum	28	32	30	34	28	26	22	28	24	18	24	26	30	26	22	18	10	16	22	26	22	24	-4	10	12	18	22	16	10	16	6	20.7
	Minimum	10	14	16	12	15	12	10	6	10	4	-2	-4	8	10	2	4	-12	-6	4	2	6	-2	0	-12	-6	-2	4	3	-4	-6	-2	2.8
Power	Maximum																																
	Minimum																																
Towner	Maximum	21	25	33	36	31	38	39	26	28	27	22	19	3	13	22	21	7	8	16	16	25	37	32	23	27	27	17	26	24	7	7	22.5
	Minimum	1	12	7	18	15	20	22	12	-3	11	-2	2	-12	-13	13	-5	-12	-3	-19	2	-6	7	10	6	7	-8	-16	12	-2	-1	-15	1.9
Turtle Lake	Maximum	28	38	40	57	33	38	39	35	35	28	24	28	12	17	23	11	17	15	22	25	35	42	35	29	29	10	15	29	30	8	15	27.2
	Minimum	3	13	10	12	17	20	15	20	20	10	5	4	-8	-5	4	-6	0	0	-9	6	12	25	17	11	13	-5	-10	15	4	0	-12	6.5
University	Maximum	19	32	25	35	32	34	37	27	30	31	22	16	12	17	21	21	2	5	16	20	21	27	26	19	29	29	11	24	21	8	18	22.2
	Minimum	0	8	6	24	20	27	25	20	24	15	5	0	-5	-9	16	-9	-10	-2	-2	-1	-1	14	17	2	1	-9	-19	11	0	0	-15	4.9
Wahpeton §§	Maximum	28	43	40	40	36	37	48	29	35	31	25	32	12	30	22	18	9	10	10	16	21	40	24	24	31	20	18	28	28	22	26	26.5
	Minimum	3	4	10	11	22	22	28	20	23	23	8	8	4	-10	-1	14	-9	-12	-2	5	-2	0	11	5	1	5	-18	-15	13	5	5	6.2
Washburn	Maximum																																
	Minimum																																
Westhope	Maximum	30	20	26	31	26	36	32	30	27	26	20	18	6	0	17	19	-1	6	7	11	9	26	30	22	27	-2	20	16	25	5	8	18.5
	Minimum	-1	8	6	9	16	22	26	6	19	6	-6	-1	-12	-13	-2	-12	-25	-8	-12	-10	-9	4	13	1	-8	-19	-11	-12	-2	-9	-10	1.4
Williston	Maximum	31	41	42	38	39	42	36	33	37	28	29	22	14	20	18	19	22	17	22	26	36	39	30	28	32	11	21	34	22	2	15	27.3
	Minimum	11	18	16	13	21	24	25	16	27	15	13	3	2	11	11	-2	16	2	2	4	14	21	16	18	11	-5	-5	19	-4	-7	-7	10.3
Willow City	Maximum	19	24	31	34	30	35	32	25	26	26	19	17	4	13	20	21	6	7	9	14	17	29	26	30	29	-2	25	20	25	9	8	20.3
	Minimum	-3	3	12	18	10	18	18	8	13	9	-10	-2	-12	-16	-10	-10	-27	-7	-19	-9	-11	-3	11	-7	-5	-7	-2	2	-2	-9	-20	2.2

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
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WEATHER BUREAU
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CLIMATOLOGICAL DATA

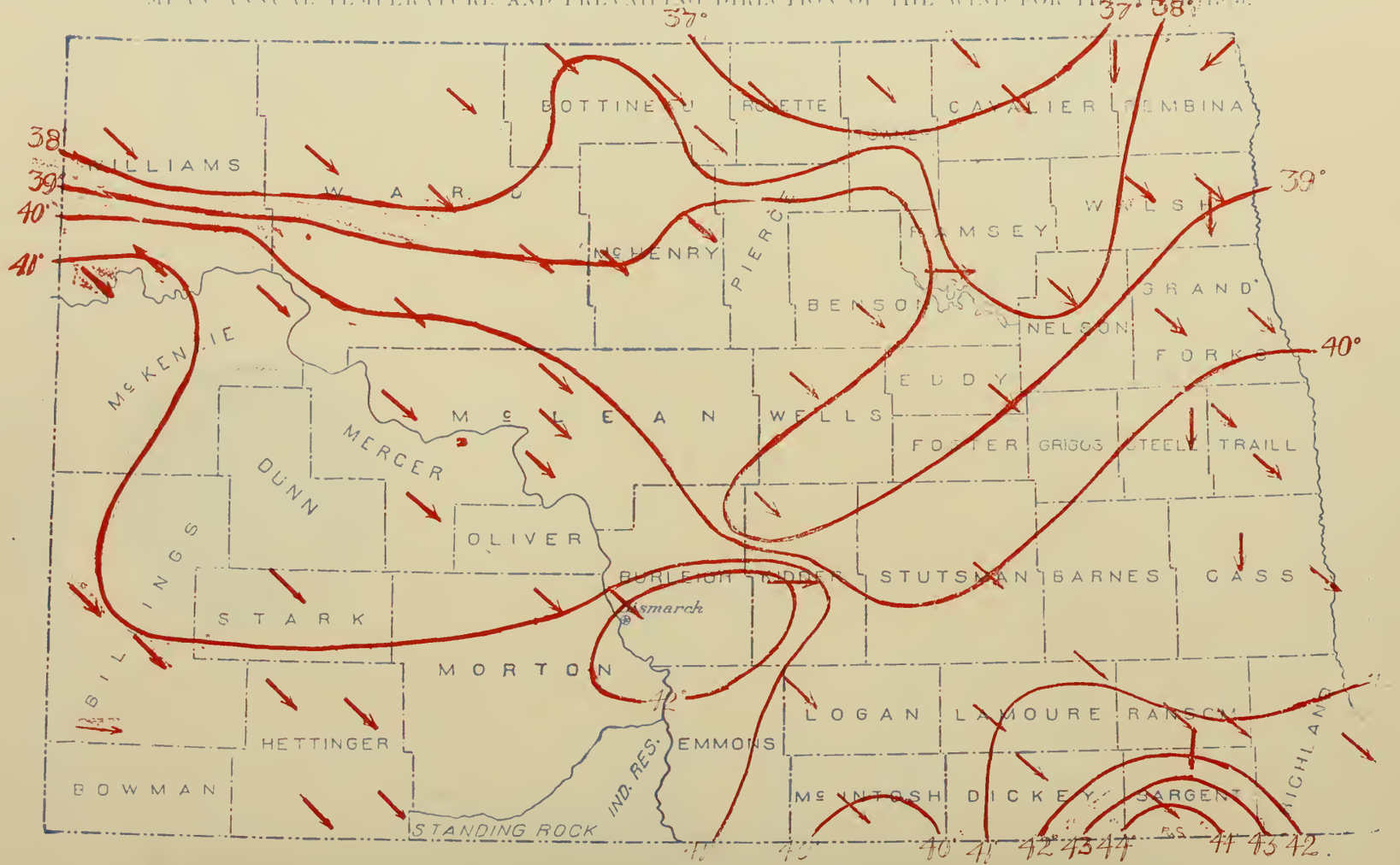
NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1915

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 19, 1916.

MEAN ANNUAL TEMPERATURE AND PREVAILING DIRECTION OF THE WIND FOR THE STATE, 1905.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXIV. BISMARCK, N. D., ANNUAL, 1915. No. 13.

GENERAL SUMMARY.

Taking the State as a whole, the weather during the year 1915 was very favorable for crops, and resulted in the most bountiful yields in the history of North Dakota. The weather was especially favorable for small grains, being cool and cloudy during the early season, with ample precipitation. Corn, however, was very backward, and much was damaged by early frosts. The temperature averaged above the normal during January, February, March, April, October, November and December, and below the normal during May, June, July, August, and September. Mean temperature records were broken during four months, the means for February and April being the highest, and for June and July being the lowest. Extremes of temperature were broken on two occasions, the maximum for April being the highest, and for August being the lowest of record. There were several severe electrical storms and several lives were lost from lightning. The precipitation was considerably above the normal, plus departures occurring during February, May, June, July, September, November and December, and minus departures during January, March, April, and August. The precipitation during October was normal. The average for March was the lowest for that month in the climatological history of the State. The distribution for the season, therefore, was fairly uniform, but the distribution geographically was uneven. The greatest deficieney in precipitation occurred over the northern tier of counties.

The mean annual temperature was 39.6°, or 0.9° above the normal, and 0.4° lower than the mean for 1914. The highest mean annual temperature reported was 43.8° at Forman, Sargent County; the lowest was 35.4° at Willow City, Bottineau County. The highest temperature reported was 104° at Minot, Ward County, on September 1st; the lowest was −48° at Langdon, Cavalier County, on January 27th. During the past twenty-four years the mean annual temperature has been lower sixteen times, and higher seven times, than during the year 1915. The highest annual mean was 41.0° in 1900 and 1910, and the lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was −54° at Willow City, Bottineau County, on January 1, 1893, and at Marstonmoor, Stutsman County, on January 12, 1913.

The average precipitation for the State was 19.51 inches, or 1.40 inches above the normal, and 0.30 inch more than the average for 1914. The greatest annual precipitation reported was 26.83 inches at Carson, Morton County; the least was 12.24 inches at Towner, McHenry County. The greatest monthly amount reported was 10.56 inches at Aplin, Oliver County, in June; the least was none at New England, Hettinger County, in January; Maddock, Benson County, in February; Orange, Adams County, in February and December; Turtle Lake, McLean County, in February; Dunseith, Rolette County, Epping, Williams County, Goodall, McKenzie County, Lisbon, Ransom County, and Westhope, Bottineau County, in March, and Plaza, Mountrail County, in March and December. During the past twenty-four years there have been thirteen with less precipitation, and ten with more, than during the year 1915. The average snowfall for the year was 21.8 inches. The greatest depth of snowfall reported was 52.0 inches at Fullerton, Dickey County; the least was 4.5 inches at New England, Hettinger County. The average number of days with 0.01 inch or more of precipitation was 72. There were 148 clear days, 101 partly cloudy, and 116 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather for the month was mild and favorable for livestock on the range and for outdoor work. The month opened with temperature considerably above the normal, a condition that continued during the first two decades. During the last decade the temperature was decidedly below the normal, but not sufficiently to overcome the accumulation of the former period. The precipitation was below the normal. There was much cloudiness, and the wind movement was below the average.

FEBRUARY.—Exceptionally mild and pleasant weather prevailed throughout the entire State during the month. Taken as a whole, the weather conditions were the most favorable of any February of record in the climatological history of the State. The temperature averaged ten degrees above the normal. While there was much cloudiness, and the precipitation was somewhat above the normal, there were no severe storms, although the snowfall in the southeastern part of the State was excessive.

MARCH.—Very favorable weather prevailed during the month. The temperature averaged above the normal, there was considerably more than the usual sunshine, there were no severe storms, and the precipitation was deficient. With the one exception of February, the average precipitation was below the normal every month since the preceding June, and as a result the moisture content of the soil was rather low. The first decade was the coldest, temperatures of below zero being recorded, but the last two decades were warm.

APRIL.—Generally favorable weather for outdoor work and for the germination and growth of plant life prevailed throughout the greater part of the State. The temperature averaged nearly ten degrees above the normal, the mean being the highest ever recorded in the State during April since the climatological service was established in 1892. All stations reported temperatures averaging above the normal. There was more than the usual cloudiness, which was very beneficial to small grains. While the precipitation was below the normal, the ground was in fairly good condition at the close of the month, except in the extreme west portion where more rain is needed. The wind movement was nearly the normal and no severe storms occurred.

MAY.—Taken as a whole, the weather was favorable for most crops. The low temperatures, cloudy conditions and excessive precipitation were very beneficial to small grains of all kinds, particularly to spring wheat, of which there was an increased acreage. Heavy to killing frosts, however, occurred in all parts of the State and did some damage, principally to corn, fruit and garden stuff. The mean temperature for the month was but one degree higher than the mean for April. Pastures and grass land were in excellent condition, insuring an abundant hay crop. Owing to the large number of rainy days and to the saturated condition of the soil, considerable delay to corn planting and flax sowing resulted.

JUNE.—Unusually cool, cloudy and wet weather prevailed throughout the greater part of the State. The mean temperature was the lowest of record for June since the climatological service was established, the nearest approach being 58.0° in 1902. The mean temperatures of all stations were below the normal. The night temperatures were especially low, light to killing frosts occurring in many parts of the State. Although the average precipitation was more than an inch less than in June, 1914, it was with but two exceptions the highest of record. Thunderstorms were frequent, and the loss of several lives from lightning was reported. With the exception of the northern tier of counties, where the precipitation during the spring was light,

and in the Red River valley where it was excessive, crops of all kinds, except corn, were in excellent condition.

JULY.—Unusually low temperature and an excess of cloudiness characterized the weather of the month. The mean temperature averaged more than five degrees below the normal and was the lowest of record in the climatological history of the State. The departure from the normal was principally due to low day temperatures. Light frosts, however, occurred in various parts of the State on the 5th. The mean temperature of all stations was below the normal. The average precipitation was somewhat above the normal, and was quite well distributed both geographically and throughout the month. A few scattered hail storms occurred, the most damaging being in the western part of the State. Although the temperature was most too low for corn, small grains of all kinds made rapid growth, and prospects for a bountiful yield of all cereals were never better than at the close of the month. The sunshine was slightly deficient.

AUGUST.—The weather during the month was generally favorable for outdoor work and for all crops except corn. The temperature averaged slightly below the normal, due chiefly to low night temperatures, a minimum of 19° being recorded at New Rockford, Eddy County, on the 26th, the lowest of record for the State. Light to killing frosts were quite frequent during the last six days of the month, and did considerable damage to corn, potatoes, garden truck and flax. The precipitation was greatly deficient, averaging only about one-half of the normal. It was, however, ample for all needs. Harvesting made excellent progress and threshing was well started at the close of the month. The sunshine was slightly above the average.

SEPTEMBER.—The weather was unfavorable for crops and for all outdoor work except plowing. On account of the numerous rainy days, threshing and late harvesting were delayed. Some damage to grain in the shock resulted from the continued wet weather. The mean temperatures were nearly the normal or slightly above in the eastern part of the State, and below the normal in the remainder, the deficiency increasing to about four degrees in the extreme western portion. Killing frosts occurred in the northern and western portions during the period, 10th to 14th, and on the 21st. These frosts were destructive to corn and late flax, as these crops were very backward on account of the abnormally cool summer.

OCTOBER.—As in the preceding month, weather conditions interfered considerably with farm work, particularly to threshing, to such an extent that there was much unthreshed grain at the close of the month, especially in the central and western portions. In the eastern portion most of the threshing was completed and much fall plowing done. Some damage to grain in the shock from heavy rain was reported. The snowfall was below the normal, and practically none remained on the ground at the close of the month.

NOVEMBER.—The weather was favorable for threshing, much of which was left over from the preceding month, owing to frequent storms. Practically all of the threshing in the eastern part of the State was completed, but in the central and western parts there was considerable unthreshed grain at the close of the month. While the feed on the ranges was the best for many years, stockmen complained of the lack of snow for livestock. The mean temperature averaged above the normal, the night temperatures being unusually mild. There was more than the average precipitation, and the ground froze with a moisture content above the normal.

DECEMBER.—Mild and pleasant weather prevailed throughout the State. The temperature averaged above the normal, due chiefly to high night temperatures. The precipitation and sunshine were nearly normal. Nearly all of the precipitation was in the form of snow. The mild weather and the absence of severe storms allowed the completion of late threshing. The general snows were of great benefit to livestock on the ranges.

NOTES.

Tables giving the daily temperature extremes and the daily precipitation, also tables showing the difference between the normals and the monthly averages of temperature and the total monthly amounts of precipitation at the several stations have been published regularly in the monthly report "Climatological Data, North Dakota Section," copies of which will be furnished on application at the Local Office of the United States Weather Bureau, Bismarck, No. Dak.

Indexes to special articles published in the several monthly and annual issues of this Bulletin will be found in the Annual Summary for 1905, and in the Monthly Summary for June, 1909.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	June 9	Oct. 5	McHenry	June 7	Aug. 24
Aplin	May 25	Sept. 13	McKinney	" 16	Sept. 13
Ashley	June 7	" 21	McLeod	" 7	Oct. 5
Beach	" 8	" 13	Maddock	" 15	Aug. 24
Berthold Agency	" 16	" 21	Mandan	May 18	Oct. 7
Bismarck	May 19	Oct. 7	Manfred	" 18	Aug. 26
Bottineau	June 16	Sept. 13	Manning	June 8	Sept. 12
Bowbells	" 16	" 11	Marmarth	" 16	" 14
Bowman	May 18	" 13	Marstonmoor	" 15	Aug. 24
Buford	June 16	" 12	Mayville	" 9	Oct. 5
Cando	" 15	Aug. 26	Melville	.....	Aug. 24
Carson	May 19	Sept. 21	Milnor	June 8	Oct. 7
Colgate	June 9	Aug. 26	Minot	" 16	Sept. 13
Crosby	" 16	Oct. 8	Minto	May 18	Aug. 26
Devils Lake	May 18	Aug. 26	Mott	" 18	Sept. 19
Dickinson	June 16	" 24	Napoleon	June 7	Aug. 24
Donnybrook	" 16	" 26	New England	May 18	Sept. 21
Dunseith	" 15	Sept. 21	New Rockford	June 4	Aug. 24
Eckman	" 19	Aug. 24	New Salem	" 8	Oct. 7
Edgeley	" 9	Oct. 7	Orange	" 16	" 8
Energy	May 16	" 7	Oriska	" 9	" 7
Epping	June 8	Sept. 12	Park River	" 7	Aug. 26
Fessenden	May 18	Aug. 26	Pembina	May 18	" 26
Forman	June 9	Oct. 7	Plaza	June 15	Sept. 13
Fullerton	May 18	" 7	Power	May 18	.....
Garrison	" 18	" 7	Powers Lake	" 18	.....
Goodall	June 16	Sept. 13	Ranger	.....	Sept. 12
Grafton	" 9	Aug. 26	Steele	June 15	Oct. 4
Grand Rapids	" 9	Oct. 5	Towner	" 16	Aug. 24
Granville	May 19	Sept. 13	Turtle Lake	" 8	.....
Hannah	June 15	Aug. 25	Van Hook	" 15	.....
Hansboro	" 9	" 26	University	May 18	Oct. 5
Hettinger	" 16	Sept. 14	Walhpeton	June 9	" 5
Hillsboro	" 9	Oct. 5	Walhalla	" 6	Aug. 26
Howard	" 16	Sept. 10	Washburn	May 18	.....
Jamestown	May 18	Oct. 7	Westhope	June 15	Aug. 26
Lakota	June 15	Aug. 26	Williston	" 16	Sept. 13
Lamoine	" 15	Sept. 13	Willow City	" 19	Aug. 26
Langdon	" 15	Aug. 26	Zap	" 16	" 24
Larimore	" 15	" 28	Moorhead, Minn.	May 18	Oct. 5
Lisbon	" 9	Oct. 7			

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure	Highest.	Lowest.		
1892	37.8	−0.9	108	−58	18.14	+0.04
1893	35.8	−2.9	112	−54	15.85	−2.25
1894	40.4	+1.7	107	−47	16.10	−2.00
1895	37.8	−0.9	104	−50	19.09	+0.99
1896	37.3	−1.4	107	−42	23.57	+5.47
1897	37.8	−0.9	109	−48	15.88	−2.22
1898	39.1	+0.4	106	−38	15.46	−2.64
1899	36.3	−2.4	109	−48	17.93	−0.17
1900	41.0	+2.3	114	−48	19.05	+0.95
1901	40.4	+1.7	110	−43	18.48	+0.38
1902	39.6	+0.9	106	−39	17.61	−0.49
1903	38.4	−0.3	108	−49	19.30	+1.20
1904	38.0	−0.7	103	−52	19.19	+1.09
1905	39.3	+0.6	107	−46	20.88	+2.78
1906	39.5	+0.8	109	−40	20.53	+2.43
1907	37.0	−1.7	104	−49	14.89	−3.21
1908	40.6	+1.9	104	−41	18.79	+0.69
1909	38.2	−0.5	109	−48	17.77	−0.33
1910	41.0	+2.3	114	−50	12.34	−5.76
1911	38.3	−0.4	108	43	19.09	+0.99
1912	38.2	−0.5	124	−52	20.50	+2.40
1913	40.1	+1.4	106	−54	14.92	−3.18
1914	40.0	+1.3	109	−47	19.21	+1.11
1915	39.6	+0.9	104	18	19.51	1.11

Climatological Data for the Year 1915.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	20	39.6	93	Aug. 13	−34	Jan. 27	20	20.59	7.48	June	0.16	Dec.	.....	60	.....	.....	.....	n.
Aplin	Oliver	1,900	9	40.9	96	Aug. 31	−39	Jan. 27	9	26.07	10.56	June	0.12	Jan.	12.2	81	.....	.....	.....	.....
Ashley	McIntosh	2,001	19	40.3	88	July 12	−37	Jan. 27	19	25.80	5.13	June	0.40	Dec.	38.0	74	196	70	99	nw.
Beach	Golden Valley	2,576	10	40.7	96	Sept. 1	−36	Jan. 28	10	21.39	4.50	June*	0.14	Feb.	15.5	66	191	104	70	nw.
Berthold Agency	McLean	2,082	22	41.0	96	Aug. 31	−43	Jan. 27	22	16.96	4.86	June	0.05	Mar.	10.1	71	147	110	108	nw.
Bismarck	Burleigh	1,674	41	41.6	92	Sept. 2	−35	Jan. 27	41	23.25	5.70	June	0.03	Feb.	11.7	93	139	107	119	nw.
Bottineau	Bottineau	1,638	24	37.6	94	Aug. 6*	−44	Jan. 27	24	12.63	2.93	June	0.03	Mar.	.....	93	117	103	145	se.
Bowbells	Burke	1,958	4	37.7	95	Aug. 1	−41	Jan. 26	4	14.46	3.21	July	0.00	Jan.	.....	66	.....	.....	.....	.....
Bowman	Bowman	.....	2	41.3	95	Aug. 31*	−37	Jan. 27	2	23.33	7.55	July	T.	Mar.	9.0	55	163	0	202	.....
Buford	Williams	1,944	37	.....	97	Sept. 1	−41	Jan. 27	37	12.77	2.29	July	0.02	Mar.	19.1	47	138	140	87	nw.
Cando	Towner	1,488	14	39.4	96	July 16	−40	Jan. 27	15	13.05	4.06	Sept.	0.01	Mar.	.....	72	.....	.....	.....	.....
Carson	Morton	.....	4	.....	95	Aug. 31	−40	Jan. 27	4	26.83	8.46	June	T.	Jan.*	7.5	63	.....	.....	.....	.....
Colgate	Steele	1,177	1	40.1	91	Aug. 13*	−35	Jan. 27	2	21.58	7.43	June	0.30	Jan.	33.0	74	198	71	96	n.
Crosby	Divide	1,954	9	.....	91	Aug. 31	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	Ramsey	1,482	11	38.5	96	Sept. 2	−38	Jan. 27	11	14.90	4.53	June	0.09	Mar.	16.8	102	98	109	158	se.
Dickinson	Stark	2,543	24	40.4	97	July 11*	−39	Jan. 27	24	19.75	5.50	June	0.07	Jan.	14.4	87	.....	.....	.....	nw.
Donnybrook	Ward	1,760	12	38.3	91	Aug. 31	−39	Jan. 27	17	19.48	4.82	June	T.	Mar.	18.5	66	177	89	99	nw.
Dunseith	Rolette	1,682	20	37.3	92	Aug. 31	−42	Jan. 27	20	15.13	3.30	Sept.	0.00	Mar.	.....	75	.....	.....	.....	nw.
Eckman	Bottineau	.....	10	38.3	95	Aug. 31*	−42	Jan. 27	10	14.92	3.44	June	0.07	Mar.	.....	72	.....	.....	.....	nw.
Edgeley	LaMoure	1,468	15	41.3	91	Aug. 31	−34	Jan. 27	15	21.96	4.54	May	0.20	Mar.	.....	72	67	127	171	nw.
Energy	McLean	.....	.....	.....	.....	.....	.....	.....	3	21.37	7.46	June	0.13	Dec.	.....	67	126	124	115	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	8	15.29	2.95	May	0.00	Mar.	27.0	56	218	83	64	e.
Fessenden	Wells	1,610	4	38.5	94	Sept. 2	−40	Jan. 27	4	18.78	6.53	June	0.05	Feb.	14.2	80	184	84	97	nw.
Forman	Sargent	1,249	24	43.8	92	July 13*	−36	Jan. 27	24	24.68	4.52	June	0.10	Mar.	46.5	85	134	81	150	nw.
Fullerton	Dickey	1,439	18	40.8	88	July 13	−34	Jan. 27	18	25.75	5.56	June	0.25	Nov.	52.0	73	126	121	118	s.
Garrison	McLean	1,901	21	39.6	93	Aug. 31	−39	Jan. 27	21	20.01	5.83	June	0.19	Jan.	15.2	67	.....	.....	.....	nw.
Goodall	McKenzie	2,200	1	40.0	96	Sept. 1	−40	Jan. 27	1	14.69	3.28	July	0.00	Mar.	.....	46	165	75	125	nw.
Grafton	Walsh	827	24	38.1	95	Sept. 2	−38	Jan. 27	24	19.63	3.90	July	0.18	Jan.	27.5	95	.....	.....	.....	nw.
Grand Rapids	LaMoure	1,321	.....	.....	93	Sept. 2	−36	Jan. 27	1	18.98	4.45	June	0.16	Nov.	27.0	51	.....	.....	.....	nw.
Granville	McHenry	1,504	9	38.7	94	Aug. 31	−37	Jan. 27	9	16.93	4.29	June	0.05	Mar.	21.5	55	.....	.....	.....	nw.
Hannah	Cavalier	1,568	9	35.8	96	Sept. 2	−46	Jan. 27	11	19.42	4.09	June	0.10	Mar.	41.0	69	.....	.....	.....	nw.
Hansboro	Towner	1,597	8	.....	96	Sept. 2	−41	Jan. 27	8	18.63	4.30	June	T.	Mar.	32.2	67	.....	.....	.....	nw.
Hettinger	Adams	2,253	8	.....	94	Aug. 1	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Hillsboro	Traill	901	10	41.1	91	Sept. 2	−36	Jan. 27	10	25.32	8.75	June	0.16	Oct.	26.5	89	160	119	86	nw.
Howard	Williams	2,275	7	37.8	92	Aug. 30	−44	Jan. 27	7	12.48	3.14	July	0.03	Mar.	38.0	51	111	140	114	nw.
Jamestown	Stutsman	1,390	24	40.4	95	Aug. 16	−35	Jan. 27*	24	19.30	4.45	June	0.40	Mar.	.....	92	138	69	158	nw.
Lakota	Nelson	1,579	15	37.0	93	Aug. 13	−42	Jan. 27	15	14.88	3.87	June	0.14	Mar.	20.7	83	.....	.....	.....	nw.
Lamoine	Kidder	1,936	8	38.3	91	Sept. 2	−42	Jan. 27	8	18.34	5.14	June	0.10	Jan.*	10.5	46	.....	.....	.....	nw.
Langdon	Cavalier	1,615	20	36.6	92	Aug. 11*	−48	Jan. 27	20	17.55	2.78	June	0.29	Oct.	34.0	77	173	65	127	nw.
Larimore	Grand Forks	1,134	21	38.9	91	Aug. 31	−37	Jan. 27	21	18.65	5.76	June	0.06	Mar.	19.6	67	.....	.....	.....	nw.
Lisbon	Ransom	1,091	12	40.5	93	Sept. 2	−35	Jan. 27	12	24.96	6.91	June	0.00	Mar.	45.2	60	185	71	109	nw.
McHenry	Foster	1,509	6	38.7	94	Aug. 27*	−40	Jan. 27	6	19.26	4.27	June	T.	Dec.	9.7	49	231	67	67	nw.
McKinney	Renville	1,640	22	38.9	100	Aug. 31	−39	Jan. 27	22	15.32	.....	.....	.....	.....	24.0	44	80	203	82	nw.
McLeod	Ransom	1,075	3	.....	96	Aug. 13	−30	Jan. 27	4	22.01	5.45	June	0.25	Dec.	32.0	71	138	123	104	nw.
Maddock	Benson	.....	1	39.7	97	Sept. 2	−42	Jan. 27	1	15.89	5.35	June	0.00	Feb.	2.1	79	166	33	166	nw.
Mandan	Morton	1,644	2	.....	92	Sept. 2	.....	.....	3	22.76	6.32	June	T.	Feb.	.....	68	.....	.....	.....	.....
Manfred	Wells	1,605	13	39.8	91	Aug. 31	−39	Jan. 26	13	17.59	5.31	June	0.14	Feb.	19.5	81	160	103	102	nw.
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	.....	.....	6.21	June	.....	.....	.....	.....	.....	.....	.....	.....
Marmarth	Slope	.....	3	40.9	94	Aug. 31	−35	Jan. 27	7	22.50	7.82	June	0.03	Mar.	25.1	84	133	115	117	w.
Marstonmoor	Stutsman	1,945	6	.....	92	Sept. 2	−45	Jan. 25*	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Mayville	Traill	975	20	41.1	93	Sept. 2*	−35	Jan. 27	20	25.50	9.95	June	0.26	Oct.	.....	81	.....	.....	.....	nw.
Melville	Foster	1,590	18	.....	94	Sept. 2	−40	Jan. 27	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	4	23.40	5.06	June	0.70	Dec.	37.6	62	171	165	89	n.
Minot	Ward	1,557	17	38.7	104	Sept. 1	−40	Jan. 28	20	16.02	4.31	June	0.20	Feb.	15.0	79	97	172	96	nw.
Minto	Walsh	820	23	39.7	94	Sept. 2	−40	Jan. 27	23	20.57	5.00	July	0.08	Mar.	.....	68	.....	.....	.....	n.
Mott	Hettinger	2,424	9	40.6	96	Aug. 31	−38	Jan. 27	9	24.49	5.83	June	0.33	Nov.	18.7	84	122	113	130	nw.
Napoleon	Logan	1,955	24	39.3	92	Sept. 2	−41	Jan. 27	24	18.90	3.82	June	0.15	Jan.*	10.5	84	125	75	165	nw.
New England	Hettinger	2,400	22	40.6	94	Sept. 1	−39	Jan. 27	22	21.22	7.51	July	0.00	Jan.	4.5	50	.....	.....	.....	nw.
New Rockford	Eddy	1,531	1	.....	.....	.....	−36	Jan. 26	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	Morton	2,163	11	40.5	95	Aug. 31	−38	Jan. 27	11	25.30	7.46	June	0.05	Jan.	13.1	75	137	128	100	nw.
Orange	Adams	2,586	7	40.2	92	Aug. 31	−38	Jan. 27	7	20.02	5.35	June	0.00	Feb.*	6.0	48	163	118	84	nw.
Oriska	Barnes	1,270	11	.....	97	July 12	−36	Jan. 27	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Park River	Walsh	998	12	39.3	97	Sept. 2	−35	Jan. 27	12	14.66	3.40	June	T.	Mar.	9.1	78	177	92	96	s.
Pembina	Pembina	789	36	39.1	98	Aug. 14*	−40	Jan. 27	42	21.82	4.44	July	0.10	Jan.	22.5	78	138	104	123	ne.
Plaza	Mountrail	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.65	July	0.00	Mar.*	.....	.....	.....	.....	.....	nw.
Power	Richland	1,020	24	.....	.....	.....	−38	Jan. 27	24	.....	8.59	June	.....	.....	.....	.....	.....	.....	.....	.....
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	1	17.84	6.05	July	T.	Mar.	26.5	56	117	138	110	nw.
Ranger	Slope	2,408	.....	.....	.....	.....	.....	.....	3	21.84	6.57	July	0.20	Mar.	22.8	74	129	102	134	nw.
Steele	Kidder	1,857	19	41.6	94	Sept. 2	−43	Jan. 27	20	23.49	5.98	June	T.	Feb.*	14.0	73	.....	.....	.....	w.
Towner	McHenry	1,482	14	39.7	96	Aug. 31	−42	Jan. 27	14	12.24	3.22	May	T.	Feb.*	14.0	48	108	147	110	nw.
Turtle Lake	McLean	1,899	4	.....	.....	.....	−38	Jan. 27	4	.....	8.50	June	0.00	Feb.*	.....	.....	.....	.....	.....	nw.
University	Grand Forks	830	24	39.2	92	Aug. 31*	−38	Jan. 27	24	19.40	7.34	June	0.18	Mar.	27.1	98	175	109	81	nw.
Wahpeton	Richland	962	22	41.1	92	Aug. 15	−35	Jan. 27	22	24.23	5.80	June	0.32	Dec.	.....	85	177	51	137	nw.
Walhalla	Pembina	966	9	.....	99	Aug. 14	−38	Jan. 27	9	16.37	3.39	Sept.	T.	Nov.	26.0	61	.....	.....	.....	n.
Washburn	McLean	1,734	11	.....	97	Sept. 2	−36	Jan. 27	18	.....	6.96	June	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	Bottineau	1,508	10	38.1	93	Aug. 9*	−44	Jan. 26	10	13.26	3.75	June	0.00	Mar.	.....	62	.....	.....	.....	nw.
Williston	Williams	1,875	37	40.6	94	Sept. 1	−40	Jan. 27	37	13.87	2.21	July	0.13	Mar.	18.2	79	92	134	139	se.
Willow City	Bottineau	1,471	24	35.4	89	Aug. 10*	−46	Jan. 27	24	15.37	3.09	May	T.	Mar.	34.6	69	78	207	80	nw.
Zap	Mercer	1,800	3	40.4	96	Aug. 31	−42	Jan. 27	3	22.45	7.41	June	0.10	Mar.	15.6	87	138	98	129	nw.
Moorhead, Minn	Clay	935	35	41.0	89	Aug. 14	−31	Jan. 27	35	23.94	9.13	June	0.35	Jan.	34.3	111	189	67	109	nw.

* Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1915, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.21	−0.24	0.70	+0.32	0.60	−0.04	2.13	+0.20	3.96	+0.87	7.48	+3.65	1.46	−1.85	0.90	−2.18	1.89	−0.16	0.41	−0.99	0.69	+0.19	0.16	−0.28	20.59	−0.51
Aplin	0.12	.....	0.25	.....	0.13	.....	0.34	.....	3.86	.....	10.56	.....	3.54	.....	1.74	.....	2.46	.....	1.59	.....	0.93	.....	0.55	.....	26.07	.....
Ashley	1.00	+0.54	1.30	+0.79	1.00	−0.36	1.72	+0.37	3.08	+0.92	5.13	+1.51	2.41	−0.08	3.18	+0.85	2.52	+1.59	3.63	+2.69	0.43	−0.10	0.40	+0.08	25.80	+8.06
Beach	0.23	.....	0.14	.....	0.19	.....	0.58	.....	3.41	.....	4.50	.....	4.50	.....	1.40	.....	3.02	.....	1.60	.....	1.24	.....	0.58	.....	21.39	.....
Berthold Agency	0.10	−0.31	0.19	−0.48	0.05	−0.91	0.48	−0.60	2.48	−0.27	4.86	+0.74	3.58	+1.60	0.75	−0.98	2.32	+0.84	1.04	+0.12	0.94	+0.40	0.17	−0.22	16.96	−0.07
Bismarck	0.08	−0.46	0.03	−0.47	0.35	−0.69	1.04	−0.84	4.43	+1.93	5.70	+2.16	4.02	+1.88	3.44	+1.46	1.68	+0.49	1.52	+0.49	0.57	−0.11	0.39	−0.23	23.25	+5.61
Bottineau	0.09	−0.35	0.18	−0.23	0.03	−0.93	1.64	+0.81	2.41	+0.13	2.93	−0.48	0.81	−1.74	0.47	−1.50	2.17	+0.38	0.62	−0.46	0.69	+0.09	0.59	+0.04	12.63	−4.24
Bowbells	0.00	.....	0.34	.....	0.03	.....	0.56	.....	2.64	.....	2.40	.....	3.21	.....	1.13	.....	2.42	.....	0.23	.....	0.95	.....	0.55	.....	14.46	.....
Bowman	0.30	.....	0.60	.....	T.	.....	0.80	.....	4.36	.....	5.48	.....	7.55	.....	1.00	.....	1.95	.....	0.94	.....	0.35	.....	T.	.....	23.33	.....
Buford	1.00	+0.50	0.40	−0.09	0.02	−0.53	0.35	−0.73	1.64	−0.79	1.01	−1.80	2.29	+0.59	0.34	−0.98	1.86	+0.88	2.02	+1.16	1.42	+0.94	0.42	−0.16	12.77	−1.01
Cando	0.04	−0.36	0.12	−0.14	0.01	−0.75	0.63	−0.28	1.82	−1.01	3.07	−0.89	1.32	−1.57	0.74	−1.79	4.06	+2.56	0.22	−0.52	0.86	+0.36	0.16	−0.22	13.05	−4.61
Carson	T.	.....	T.	.....	0.20	.....	1.25	.....	4.55	.....	8.46	.....	5.02	.....	1.02	.....	1.94	.....	2.68	.....	1.36	.....	0.35	.....	26.83	.....
Colgate	0.30	.....	1.40	.....	0.60	.....	1.57	.....	3.56	.....	7.43	.....	1.96	.....	0.49	.....	2.54	.....	0.31	.....	0.92	.....	0.50	.....	21.58	.....
Cooperstown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.65	.....	0.20	.....	.....	.....
Crosby	.....	.....	T.	.....	0.05	.....	0.51	.....	1.42	.....	2.48	.....	3.26	.....	0.65	.....	1.68	.....	T.	.....	4.44	.....	0.20	.....	.....	.....
Devils Lake	0.11	−0.49	0.24	−0.29	0.09	−0.92	1.10	−0.93	2.13	−0.07	4.53	+1.00	1.00	−2.78	0.90	−1.86	3.11	+1.72	0.45	−0.78	0.60	−0.11	0.64	+0.25	14.90	−5.26
Dickinson	0.07	−0.38	0.15	−0.34	0.21	−0.69	0.61	−0.61	3.67	+1.09	5.50	+2.63	3.71	+1.43	0.45	−1.57	2.23	+1.14	1.78	+1.02	1.15	+0.62	0.22	−0.23	19.75	+4.11
Donnybrook	0.15	−0.20	0.17	−0.48	T.	−0.89	0.45	−0.40	3.45	+0.88	4.82	+2.00	4.80	+1.84	0.79	−1.55	2.19	+0.17	0.49	−0.41	1.56	+0.93	0.61	+0.07	19.48	+1.96
Dunseith	0.20	−0.26	T.	−0.45	0.00	−0.98	0.95	+0.22	2.18	+0.49	2.64	−0.38	1.33	−1.08	1.20	−1.03	3.30	+1.65	0.17	−0.55	1.71	+1.36	1.45	+1.06	15.13	+0.05
Eckman	0.05	.....	0.90	.....	0.07	.....	0.72	.....	3.23	.....	3.44	.....	1.94	.....	0.54	.....	2.55	.....	0.15	.....	0.92	.....	0.41	.....	14.92	.....
Edgeley	0.21	−0.06	0.80	+0.46	0.20	−0.82	1.39	−0.40	4.54	+1.80	4.46	+1.12	3.49	+0.81	1.52	−0.83	2.23	+0.32	2.56	+1.78	0.26	−0.12	0.30	−0.15	21.96	+3.91
Energy	0.20	.....	0.80	.....	0.50	.....	0.37	.....	3.63	.....	7.46	.....	3.79	.....	1.04	.....	1.87	.....	1.12	.....	0.46	.....	0.13	.....	21.37	.....
Epping	0.21	.....	0.15	.....	0.00	.....	0.54	.....	2.95	.....	1.96	.....	2.93	.....	1.55	.....	1.75	.....	1.20	.....	1.17	.....	0.88	.....	15.29	.....
Fessenden	0.32	.....	0.05	.....	0.25	.....	1.24	.....	1.88	.....	6.53	.....	2.83	.....	1.25	.....	3.17	.....	0.26	.....	0.46	.....	0.54	.....	18.78	.....
Forman	1.25	+0.74	3.00	+2.57	0.10	−0.82	1.75	−0.46	3.43	+0.53	4.52	+1.15	0.88	−2.04	2.34	−0.63	2.59	+0.77	3.47	+2.11	0.65	+0.14	0.70	+0.21	24.68	+4.27
Fullerton	0.99	+0.34	2.90	+2.17	0.59	−0.72	1.07	−0.84	4.06	+0.85	5.56	+2.43	2.01	−1.26	2.04	−0.88	2.21	−0.08	3.41	+2.18	0.25	−0.43	0.66	−0.20	25.75	+3.56
Garrison	0.19	−0.32	0.25	−0.39	0.24	−0.79	0.91	−0.15	3.07	+0.71	5.83	+2.48	3.22	+0.87	1.06	−0.83	2.66	+1.31	0.64	−0.18	1.28	+0.60	0.66	+0.17	20.01	+3.48
Goodall	0.10	.....	0.75	.....	0.00	.....	1.13	.....	2.10	.....	2.71	.....	3.28	.....	0.38	.....	1.71	.....	1.20	.....	0.53	.....	0.80	.....	14.69	.....
Grafton	0.18	−0.40	1.42	+0.88	0.10	−0.64	1.49	−0.02	3.02	+0.79	3.71	+0.36	3.90	+1.37	1.94	−0.76	1.45	−0.46	0.23	−0.66	1.39	+0.75	0.80	+0.30	19.63	+1.51
Grand Rapids	0.20	.....	1.40	.....	0.40	.....	1.30	.....	3.80	.....	4.45	.....	2.60	.....	0.75	.....	1.27	.....	1.95	.....	0.16	.....	0.70	.....	18.98	.....
Granville	0.10	.....	0.15	.....	0.05	.....	1.27	.....	2.72	.....	4.29	.....	2.34	.....	1.31	.....	2.85	.....	0.18	.....	0.73	.....	0.94	.....	16.93	.....
Hannah	0.60	.....	0.50	.....	0.10	.....	1.17	.....	2.19	.....	4.09	.....	0.96	.....	1.47	.....	5.03	.....	0.80	.....	1.01	.....	1.50	.....	19.42	.....
Hansboro	0.20	.....	0.20	.....	T.	.....	1.65	.....	1.90	.....	4.30	.....	1.17	.....	0.90	.....	4.52	.....	0.47	.....	1.22	.....	2.10	.....	18.63	.....
Hettinger	.....	.....	.....	.....	.....	.....	1.56	.....	3.17	.....	5.47	.....	6.63	.....	1.59	.....	2.01	.....	0.84	.....	0.29	.....	0.39	.....	.....	.....
Hillsboro	0.35	.....	0.90	.....	0.47	.....	1.66	.....	4.35	.....	8.75	.....	2.36	.....	1.34	.....	3.16	.....	0.16	.....	1.22	.....	0.60	.....	25.32	.....
Howard	0.50	.....	0.30	.....	0.03	.....	0.38	.....	1.72	.....	1.81	.....	3.14	.....	0.27	.....	1.63	.....	0.76	.....	1.14	.....	0.80	.....	12.48	.....
Jamestown	0.50	−0.04	0.85	+0.25	0.40	−0.61	1.57	−0.22	3.90	+1.04	4.45	+0.69	1.66	−1.16	0.78	−1.93	2.34	+0.80	1.38	+0.46	0.50	−0.23	0.97	+0.23	19.30	−0.72
Lakota	0.18	−0.64	0.56	−0.09	0.14	−0.47	0.98	−0.66	1.14	−1.36	3.87	+0.42	2.10	−0.81	2.35	−0.12	2.10	+1.03	0.37	−0.48	0.66	−0.12	0.43	−0.50	14.88	−3.80
Lamoine	0.10	.....	0.10	.....	0.30	.....	1.35	.....	1.92	.....	5.14	.....	2.54	.....	3.10	.....	2.17	.....	0.32	.....	1.05	.....	0.25	.....	18.34	.....
Langdon	0.50	.....	0.40	.....	1.00	.....	1.62	.....	2.03	.....	2.78	.....	2.72	.....	1.64	.....	2.77	.....	0.29	.....	0.70	.....	1.10	.....	17.55	.....
Larimore	0.47	−0.03	0.50	+0.17	0.06	−0.77	0.41	−1.11	4.25	+1.87	5.76	+2.31	2.17	−0.86	0.23	−2.75	2.29	+0.64	0.46	−0.85	1.74	+1.36	0.31	−0.08	18.65	−0.10
Lisbon	T.	−0.57	4.20	+3.61	0.00	−0.68	1.73	−0.36	3.74	−0.03	6.91	+2.91	3.08	−0.27	0.78	−1.14	2.46	+0.38	1.30	+0.08	0.46	−0.20	0.30	−0.33	24.96	+3.40
McHenry	0.40	.....	0.50	.....	0.35	.....	2.06	.....	3.57	.....	4.27	.....	3.26	.....	0.37	.....	3.94	.....	0.24	.....	0.29	.....	T.	.....	19.26	.....
McKinney	0.30	−0.06	0.20	−0.11	T.	−0.84	.....	.....	2.98	+0.80	3.23	−0.23	3.15	+1.08	0.70	−0.87	2.66	+1.04	T.	−0.78	1.70	+1.03	0.20	−0.23	.....	.....
McLeod	0.40	.....	1.70	.....	0.70	.....	1.95	.....	2.68	.....	5.45	.....	3.06	.....	1.34	.....	1.68	.....	2.05	.....	0.75	.....	0.25	.....	22.01	.....
Maddock	0.04	.....	0.00	.....	T.	.....	0.98	.....	2.41	.....	5.35	.....	0.67	.....	1.45	.....	2.88	.....	1.50	.....	0.44	.....	0.17	.....	15.89	.....
Mandan	0.07	.....	T.	.....	0.30	.....	1.11	.....	4.98	.....	6.32	.....	3.76	.....	3.53	.....	1.41	.....	0.80	.....	0.34	.....	0.14	.....	22.76	.....
Manfred	0.41	−0.27	0.14	−0.38	0.17	−0.56	1.62	+0.38	1.99	−0.73	5.31	+1.88	1.77	−0.69	1.52	−0.90	2.65	+1.22	0.26	−0.62	1.21	+0.45	0.54	−0.32	17.59	−0.54
Manning	.....	.....	0.15	.....	0.11	.....	0.55	.....	2.66	.....	6.21	.....	4.14	.....	0.99	.....	2.17	.....	1.71	.....	1.47	.....	0.17	.....	.....	.....
Marmarth	0.10	.....	0.34	.....	0.03	.....	0.71	.....	3.70	.....	7.82	.....	4.95	.....	1.35	.....	1.72	.....	0.97	.....	0.49	.....	0.32	.....	22.50	.....
Marstonmoor	0.25	.....	0.05	.....	0.06	.....	0.89	.....	3.98	.....	3.92	.....	2.21	.....	1.15	.....	1.85	.....	0.97	.....	.....	.....	.....	.....	.....	.....
Mayville	0.33	−0.04	1.11	+0.71	0.45	−0.23	1.12	−0.55	4.26	+1.31	9.95	+6.94	1.80	−1.56	1.02	−2.21	3.72	+1.16	0.26	−0.98	0.81	+0.14	0.67	+0.20	25.50	+4.89
Melville	T.	−0.35	T.	−0.35	.....	.....	.....	.....	.....	.....	.....	.....	2.38	−0.45	0.75	−1.40	2.47	+1.13	0.37	−0.53	0.85	+0.43	0.75	+0.40	.....	.....
Milnor	0.86	.....	2.27	.....	0.86	.....	1.29	.....	3.63	.....	5.06	.....	1.37	.....	1.24	.....	2.28	.....	3.04	.....	0.80	.....	0.70	.....	23.40	.....
Minot	0.25	−0.12	0.20	−0.30	0.35	−0.40	0.66	−0.60	2.94	+0.83	4.31	+1.07	1.68	−0.28	1.32	−0.92	2.45	+0.79	0.29	−0.68	0.87	+0.24	0.70	+0.33	16.02	−0.04
Minto	0.04	−0.44	1.27	+0.71	0.08	−0.82	1.73	+0.12	3.28	+0.79	4.26	+0.92	5.00	+2.21	1.21	−1.43	1.59	−0.52	0.15	−1.14	1.41	+0.85	0.55	+0.09	20.57	+1.44
Mott	0.35	.....	0.54	.....	0.86	.....	0.93	.....	5.00	.....	5.83	.....	4.73	.....	0.45	.....	3.19	.....	.....	.....	0.33	.....	0.51	.....	24.49	.....
Napoleon	0.15	−0.36	0.15	−0.30	0.18	−0.73	1.17	−0.57	3.62	+1.16	3.82	+0.04	2.22	−0.26	2.54	+0.03	1.97	+0.67	2.31	+1.43	0.47	−0.23	0.30	−0.19	18.90	+0.69
New England	0.00	−0.44	T.	−0.69	T.	−0.82	0.75	−0.23	2.88	+0.63	4.31	+1.83	7.51	+5.73	2.04	+0.14	1.75	+0.56	0.90	+0.26	0.85	+0.30	0.20	−0.22	21.22	+7.05
New Rockford	0.12	.....	0.07	.....	T.	.....	2.41	.....	2.48	.....	8.13	.....	.....	.....	1.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	0.05	−0.59	0.16	−0.20	0.35	−0.51	0.95	−0.23	4.35	+1.79	7.46	+3.49	5.38	+3.41	1.34	−0.48	2.24	+0.73	2.10	+1.05	0.57	+0.24	0.35	+0.01	25.30	+8.71
Orange	0.20	.....	0.00	.....	0.20	.....	1.27	.....	4.73	.....	5.35	.....	4.02	.....	1.40	.....	1.32	.....	1.50	.....	0.03	.....	0.00	.....	20.02	.....
Oriska	0.29	−0.26	0.15	−0.17	0.20	−0.33	2.00	+0.31	3.87	+0.73	5.47	+2.41	1.47	−1.61	1.40	−1.25	2.07	+0.53	0.71	−0.35	0.50	−0.11	.....	.....	.....	.....
Park River	0.06	−0.35	0.47	+0.02	T.	−0.61	1.56	+0.29	2.91	+0.48	3.40	−0.14	2.88	+0.31	0.69	−1.97	1.38	−0.31	0.17	−0.90	0.86	+0.02	0.28	−0.18	14.66	−3.34
Pembina	0.10	−0.49	1.50	+0.75	0.18	−0.77	2.23	+0.58	1.42	−1.21	3.88	+0.23	4.44	+1.85	0.12	−2.26	2.84	+0.99	3.14	+1.65	1.57	+0.85	0.40	−0.45	21.82	+1.72
Plaza	.....	.....	.....	.....	0.00	.....	0.57	.....	3.19	.....	3.64	.....	3.65	.....	0.41	.....	2.08	.....	0.74	.....	0.70	.....	0.00	.....	.....	.....
Power	0.60	+0.05	1.20	+0.63	0.20	−0.51	0.85	−1.03	4.85	+2.03	8.59	+5.11	1.73	−1.62	2.39	−0.09	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Powers Lake	0.16	.....	0.34	.....	T.	.....	0.65	.....	2.05	.....	3.21	.....	6.05	.....	0.44	.....	2.00	.....	0.59	.....	1.85	.....	0.50	.....	17.84	.....
Ranger	0.25	.....	0.26	.....	0.20	.....	0.88	.....	3.27	.....	4.60	.....	6.57	.....	0.60	.....	2.07	.....	1.83	.....	0.73	.....	0.58	.....	21.84	.....
St. John	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.77	.....	1.88	.....	0.40	.....	4.04	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	0.52	+0.17	T.	−0.47	T.	−0.84	0.29	−0.77	4.84	+2.45	5.98	+2.65	3.34	+0.68	2.58	+0.30	2.97	+1.77	1.54	+0.82	0.90	+0.31	0.53	+0.15	23.49	+7.22
Towner	0.15	−0.27	T.	−0.48	T.	−1.01	0.80	−0.45	3.22	+0.31	2.01	−1.86	1.57	−0.97	0.24	−2.13	2.72	+0.68	0.40	−0.71	0.78	+0.28	0.35	+0.06	12.24	−6.55
Turtle Lake	0.02	.....	0.00	.....	T.	.....	0.98	.....	3.30	.....	8.50	.....	2.85	.....	2.05	.....	.....	.....	.....	.....	.....	.....	0.4	.....	.....	.....
University	0.47	−0.05	1.27	+0.77	0.18	−0.55	0.99	−1.10	3.36	+0.80	7.34	+3.81	2.25	−0.34	0.07	−2.56	1.57	−0.43	0.28	−1.00	1.00	+0.27	0.62	+0.12	19.40	−0.26
Van Hook	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.04	.....	3.51	.....	.....	.....	2.44	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	0.86	+0.43	1.36	+0.81	1.37	+0.41	1.14	−1.20	3.61	+0.81	5.80	+1.89	2.53	−1.53	1.10	−2.13	2.72	+0.64	2.73	+1.09	0.69	+0.02	0.32	−0.11	24.23	+1.13
Walhalla	0.60	.....	1.00	.....	0.15	.....	1.91	.....	2.44	.....	3.10	.....	2.09	.....	0.80	.....	3.39	.....	0.04	.....	T.	.....	0.85	.....	16.37	.....
Washburn	0.07	−0.36	.....	.....	0.08	−0.63	0.81	−0.30	3.25	+0.87	6.96	+3.83	3.10	+0.80	1.08	−0.09	2.64	+1.46	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	0.20	.....	T.	.....	0.00	.....	0.53	.....	2.45	.....	3.75	.....	1.12	.....	1.20	.....	2.06	.....	0.25	.....	0.90	.....	0.80	.....	13.26	.....
Williston	0.38	−0.20	0.18	−0.29	0.13	−0.55	0.68	−0.55	1.95	−0.31	1.64	−1.93	2.21	+0.18	0.54	−0.77	1.60	+0.69	1.60	+0.83	2.08	+1.48	0.88	−0.22	13.87	−1.20
Willow City	1.11	+0.76	0.55	+0.15	T.	−0.70	0.68	−0.25	3.09	+1.09	2.13	−1.40	1.21	−0.96	1.68	−0.27	2.62	+0.86	0.29	−0.38	1.15	+0.74	0.86	+0.44	15.37	+0.08
Zap	0.11	.....	0.12	.....	0.10	.....	0.38	.....	4.46	.....	7.41	.....	3.82	.....	1.26	.....	2.15	.....	1.43	.....	1.05	.....	0.16	.....	22.45	.....
Moorhead, Minn.	0.35	−0.36	1.88	+1.15	0.57	−0.57	1.15	−1.18	3.93	+0.98	9.13	+5.00	2.22	−1.52	1.05	−2.05	1.34	−0.96	0.96	−1.11	0.78	−0.20	0.58	−0.16	23.94	−0.98

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1915, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	- 0.3	−5.6	16.0	+8.2	25.3	+1.8	50.2	+8.1	51.4	−3.1	57.8	−6.3	64.4	−3.9	64.6	−1.6	[b]55.7	−1.6	45.6	+0.6	28.7	+2.4	15.2	+2.6	39.6	+0.2
Aplin	10.0	.....	18.6	.....	[b]22.4	.....	[a]51.7	.....	51.0	.....	[c]55.7	.....	[a]62.6	.....	[a]65.2	.....	[d]54.0	.....	[e]48.0	.....	31.3	.....	20.4	.....	40.9	.....
Ashley	7.0	−0.7	17.9	+11.4	21.8	−0.3	50.0	+8.3	49.5	−4.0	[b]56.6	−6.0	[a]63.8	−4.5	63.0	−3.1	56.0	−0.9	48.0	+4.3	31.6	+5.6	18.8	+5.0	40.3	+1.2
Beach	11.4	.....	19.3	.....	22.1	.....	52.8	.....	50.4	.....	57.0	.....	62.0	.....	64.8	.....	52.0	.....	48.0	.....	29.7	.....	18.6	.....	40.7	.....
Berthold Agency	10.0	+3.3	18.0	+8.7	21.8	−3.2	52.0	+8.5	[b]52.0	−2.3	57.5	−5.8	62.2	−6.7	66.0	−2.1	53.8	−3.8	47.7	+2.1	31.3	+3.8	19.6	+2.6	41.0	+0.4
Bismarck	9.2	+2.5	20.6	+12.3	24.0	+1.9	51.5	+8.9	51.0	−4.2	58.2	−6.0	62.6	−7.6	65.2	−2.9	56.0	−1.1	48.6	+4.5	32.6	+6.6	19.8	+4.8	41.6	+1.6
Bottineau	0.5	+0.6	15.4	+13.3	24.4	+6.7	48.2	+9.1	52.2	−1.0	55.1	−3.0	61.8	−3.9	66.2	+3.1	52.4	−3.3	43.2	+0.7	23.1	+0.9	9.0	+1.5	37.6	+2.2
Bowbells	5.8	.....	15.9	.....	[a]22.4	.....	48.4	.....	50.7	.....	54.8	.....	59.6	.....	65.0	.....	50.2	.....	45.2	.....	[a]22.9	.....	11.5	.....	37.7	.....
Bowman	12.6	.....	20.6	.....	23.3	.....	50.4	.....	48.8	.....	56.7	.....	62.0	.....	64.4	.....	53.9	.....	48.1	.....	32.8	.....	22.5	.....	41.3	.....
Buford	9.6	+3.8	19.0	+8.3	22.2	−1.4	52.2	+9.5	.....	.....	60.4	−3.9	62.8	−6.6	67.6	+0.7	53.4	−2.4	48.4	+5.0	32.2	+5.4	21.8	+7.8	.....	.....
Cando	1.4	+0.8	16.6	+13.1	[a]25.6	+3.8	[f]48.6	+8.5	54.9	+4.2	57.0	−3.9	64.2	−0.4	67.2	+5.2	57.5	+2.1	[f]47.8	+4.2	23.0	−2.2	[c] 9.6	+1.7	39.4	+3.0
Carson	10.8	.....	20.2	.....	21.6	.....	50.9	.....	49.5	.....	57.2	.....	61.0	.....	62.4	.....	54.0	.....	.....	.....	.....	.....	23.2	.....	.....	.....
Colgate	7.1	.....	18.6	.....	25.5	.....	50.8	.....	51.4	.....	57.6	.....	63.6	.....	63.4	.....	55.8	.....	46.3	.....	27.4	.....	13.5	.....	40.1	.....
Crosby	.....	.....	.....	.....	22.4	.....	[b]49.5	.....	52.2	.....	56.2	.....	60.8	.....	[a]67.0	.....	[a]51.6	.....	[a]46.4	.....	26.2	.....	[d]15.3	.....	.....	.....
Devils Lake	2.6	+2.3	15.4	+10.9	23.8	+5.3	48.3	+10.1	50.7	−2.0	55.4	−7.2	62.4	−5.7	64.6	−0.5	55.0	−0.6	45.4	+4.9	26.3	+3.7	12.4	+4.4	38.5	+2.1
Dickinson	11.9	+1.5	19.7	+7.8	21.5	−3.2	50.8	+8.1	49.4	−3.2	56.5	−5.1	61.2	−6.7	63.6	−3.0	52.8	−3.8	47.2	+3.0	29.8	+2.5	19.8	+1.4	40.4	0.0
Donnybrook	7.4	+3.8	17.0	+9.0	22.6	−0.7	[a]49.4	+10.1	50.4	+0.5	54.6	−6.9	58.7	−6.8	63.6	−1.3	51.4	−3.4	44.8	+1.5	24.8	−3.2	14.8	+0.5	38.3	+0.3
Dunseith	1.2	−2.1	15.4	+11.7	[c]23.3	+4.5	[b]48.2	+7.8	51.2	−1.2	54.5	−7.1	60.8	−3.1	63.8	+0.3	50.8	−4.0	43.8	+1.6	23.6	−1.4	11.0	+1.8	37.3	+0.7
Eckman	3.1	.....	16.0	.....	25.6	.....	[a]48.8	.....	51.4	.....	55.7	.....	[a]61.1	.....	63.9	.....	53.0	.....	44.7	.....	[a]25.4	.....	[a]10.8	.....	38.3	.....
Edgeley	8.2	+0.4	19.4	+8.6	24.1	−3.1	51.0	+9.0	50.8	−2.8	58.0	−5.2	63.0	−5.4	64.2	−2.3	56.7	−0.9	48.0	+2.0	31.9	+2.4	20.4	+5.5	41.3	+0.7
Fessenden	4.2	.....	16.6	.....	24.2	.....	47.4	.....	49.8	.....	55.2	.....	61.2	.....	62.6	.....	54.0	.....	45.2	.....	27.6	.....	14.0	.....	38.5	.....
Forman	10.0	+3.1	[a]22.6	+14.9	[a]26.1	+0.5	[b]55.4	+11.5	53.4	−2.1	61.0	−4.6	66.8	−2.4	66.2	−1.4	60.2	+1.1	50.4	+4.5	33.8	+6.6	19.2	+4.2	43.8	+2.9
Fullerton	6.8	−1.6	18.8	+9.5	22.6	−3.0	50.6	+8.3	51.0	−2.5	58.2	−4.8	63.2	−4.6	64.2	−1.9	56.4	0.0	47.8	+3.2	31.8	+3.4	18.2	+4.0	40.8	+0.8
Garrison	6.6	−0.6	18.4	+9.9	22.1	+0.3	50.1	+7.7	50.6	−2.4	56.0	−6.8	60.9	−7.0	63.4	−2.4	52.8	−4.1	47.3	+3.1	29.8	+4.8	17.6	+2.8	39.6	+0.4
Goodall	[e] 8.8	.....	17.2	.....	20.8	.....	51.3	.....	51.8	.....	57.0	.....	61.4	.....	66.4	.....	54.0	.....	47.6	.....	29.0	.....	14.5	.....	40.0	.....
Grafton	0.6	−0.8	14.0	+8.1	[a]23.9	+4.7	48.4	+8.4	51.2	−2.0	55.8	−7.5	62.6	−4.8	64.6	+0.3	55.2	−0.7	45.4	+2.2	[a]24.2	+1.7	11.4	+3.2	38.1	+1.1
Grand Rapids	.....	.....	19.3	.....	24.0	.....	51.8	.....	52.0	.....	59.6	.....	62.8	.....	62.5	.....	56.5	.....	47.3	.....	31.2	.....	16.6	.....	.....	.....
Granville	1.4	.....	17.8	.....	24.0	.....	49.4	.....	51.4	.....	57.0	.....	62.5	.....	63.8	.....	[g]52.6	.....	46.6	.....	24.6	.....	13.4	.....	38.7	.....
Hannah	- 0.6	.....	14.5	.....	21.2	.....	44.9	.....	48.7	.....	53.6	.....	58.3	.....	61.4	.....	53.0	.....	41.5	.....	23.6	.....	[k]10.9	.....	35.8	.....
Hansboro	3.2	.....	16.4	.....	25.6	.....	[d]48.4	.....	.....	.....	53.4	.....	60.6	.....	63.8	.....	52.8	.....	43.6	.....	[g]25.4	.....	10.7	.....	.....	.....
Hettinger	.....	.....	.....	.....	.....	.....	51.0	.....	49.0	.....	56.1	.....	61.8	.....	63.2	.....	53.0	.....	48.2	.....	32.8	.....	19.8	.....	.....	.....
Hillsboro	4.4	.....	18.2	.....	25.2	.....	51.6	.....	52.8	.....	58.8	.....	65.4	.....	65.9	.....	58.7	.....	48.6	.....	28.4	.....	15.4	.....	41.1	.....
Howard	5.2	.....	16.4	.....	18.4	.....	49.4	.....	49.8	.....	54.9	.....	59.6	.....	65.0	.....	50.4	.....	45.5	.....	23.8	.....	15.0	.....	37.8	.....
Jamestown	5.0	−2.2	17.0	+8.8	24.8	+2.0	49.8	+7.3	51.6	−2.0	59.2	−4.4	63.6	−4.6	64.9	−1.3	56.9	+0.2	47.0	+1.5	29.6	+3.1	15.5	+0.8	40.4	+0.8
Lakota	1.6	+3.1	13.8	+9.8	[c]21.4	+1.5	[a]48.5	+9.9	49.8	−0.3	54.0	−8.1	[a]61.8	−3.2	62.0	−1.0	[a]53.2	−1.8	43.3	+1.0	24.3	+1.9	10.5	+0.9	37.0	+1.1
Lamoine	4.7	.....	17.0	.....	21.6	.....	49.6	.....	49.7	.....	54.7	.....	60.2	.....	61.8	.....	[a]53.8	.....	45.3	.....	[d]25.9	.....	[c]15.4	.....	38.3	.....
Langdon	- 1.2	.....	13.0	.....	22.0	.....	46.4	.....	50.4	.....	54.2	.....	60.6	.....	62.9	.....	53.3	.....	42.8	.....	22.9	.....	10.3	.....	36.6	.....
Larimore	2.4	−0.9	15.0	+9.3	23.9	+2.7	49.0	+8.9	50.9	−1.8	56.6	−6.0	62.5	−3.7	65.0	+1.0	55.2	+0.3	[a]46.0	+1.6	26.1	+1.7	14.2	+2.7	38.9	+1.3
Lisbon	8.2	+2.9	17.4	+8.1	19.3	−8.4	51.2	+9.9	51.4	−1.1	59.0	−4.2	65.3	−2.4	65.8	−0.3	58.0	+0.4	48.6	+3.7	28.4	−1.2	13.0	−2.2	40.5	+0.5
McHenry	3.4	.....	16.3	.....	24.2	.....	48.8	.....	51.4	.....	56.3	.....	62.4	.....	64.1	.....	55.2	.....	42.2	.....	27.6	.....	12.1	.....	38.7	.....
McKinney	6.6	+3.3	18.0	+13.3	23.3	+4.5	.....	.....	53.0	+0.9	55.7	−5.2	60.4	−5.3	64.3	+1.1	53.0	−0.7	44.9	+3.1	24.4	+1.2	14.4	+3.1	.....	.....
McLeod	9.7	.....	18.4	.....	20.0	.....	47.4	.....	50.6	.....	55.5	.....	66.0	.....	65.0	.....	58.8	.....	49.2	.....	30.4	.....	17.9	.....	.....	.....
Maddock	4.2	.....	18.1	.....	25.7	.....	[a]49.9	.....	51.6	.....	56.6	.....	63.2	.....	64.3	.....	55.5	.....	45.8	.....	27.6	.....	14.3	.....	39.7	.....
Mandan	.....	.....	.....	.....	[b]23.2	.....	51.9	.....	51.3	.....	58.6	.....	63.0	.....	65.0	.....	55.8	.....	48.4	.....	32.2	.....	18.8	.....	.....	.....
Manfred	4.6	+0.7	18.4	+10.8	24.9	+0.7	50.4	+9.6	51.6	+0.9	56.0	−6.6	61.4	−4.7	63.8	+0.1	55.4	−0.2	47.0	+3.2	28.6	+1.2	15.6	+3.2	39.8	+1.6
Marmarth	13.1	.....	20.2	.....	23.1	.....	[a]51.2	.....	49.5	.....	55.5	.....	59.8	.....	64.5	.....	52.6	.....	48.2	.....	32.0	.....	[b]21.2	.....	40.9	.....
Marstonmoor	2.8	.....	17.5	.....	[a]23.6	.....	49.0	.....	49.2	.....	[d]55.2	.....	60.3	.....	61.3	.....	54.2	.....	44.8	.....	.....	.....	.....	.....	.....	.....
Mayville	4.7	−1.9	17.4	+9.0	25.5	+2.3	52.0	+9.3	52.5	−2.6	58.8	−6.5	65.3	−3.8	64.8	−1.2	59.2	+2.7	[a]48.9	+3.7	28.6	+0.8	15.7	+1.8	41.1	+1.1
Melville	[a] 6.0	−0.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[f]64.8	−1.3	56.5	+0.3	[f]46.0	+2.3	[c]29.4	+1.9	[d]15.4	+3.1	.....	.....
Minot	4.8	−1.0	16.0	+7.7	23.5	+2.3	48.6	+7.1	52.2	−0.1	56.7	−6.6	59.6	−8.4	62.8	+0.6	52.8	−4.2	45.7	+1.3	26.4	−2.4	15.0	+1.3	38.7	−0.2
Minto	[a] 1.7	−0.1	15.5	+9.6	24.6	+3.5	50.0	+9.4	52.5	−0.9	58.0	−5.9	63.4	−3.7	65.8	+1.2	56.6	+0.2	46.6	+3.4	28.8	+4.3	12.8	+1.9	39.7	+1.9
Mott	11.3	.....	20.0	.....	21.4	.....	52.4	.....	52.0	.....	57.6	.....	61.8	.....	64.2	.....	51.0	.....	46.6	.....	28.6	.....	19.9	.....	40.6	.....
Napoleon	5.0	−1.3	17.8	+11.0	20.9	−0.5	49.1	+7.7	48.5	−4.3	56.0	−9.4	62.0	−6.1	63.4	−2.8	55.1	−1.8	47.8	+5.9	29.9	+4.9	15.8	+2.8	39.3	+0.5
New England	[d]10.6	−3.5	[e]16.2	+3.9	17.8	−6.7	52.2	+9.7	50.8	−0.6	57.4	−5.0	63.4	−4.8	65.0	−1.4	53.2	−2.7	48.0	+4.1	31.6	+3.2	21.6	+3.1	40.6	−0.1
New Rockford	4.6	.....	15.2	.....	.....	.....	55.4	.....	.....	.....	55.0	.....	.....	.....	62.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	9.6	+0.8	20.1	+9.5	21.2	−4.0	51.2	+8.6	49.2	−2.5	56.6	−7.6	60.4	−9.1	64.2	−2.4	54.2	−3.6	47.0	+1.9	32.3	+2.5	19.7	+3.1	40.5	−0.2
Orange	9.9	.....	19.8	.....	20.3	.....	50.4	.....	48.4	.....	56.0	.....	60.9	.....	63.0	.....	53.3	.....	47.9	.....	32.1	.....	20.0	.....	40.2	.....
Oriska	6.5	+1.0	[a]17.1	+11.1	24.8	−2.0	52.0	+8.8	51.6	−1.2	58.7	−5.2	63.8	−3.9	65.3	−0.1	57.4	−1.1	48.0	+2.7	[g]29.8	+0.2	.....	.....	.....	.....
Park River	2.9	+1.4	14.7	+8.7	24.9	+2.3	49.8	+8.6	52.4	+0.7	57.2	−7.0	63.0	−4.3	65.9	+0.3	56.4	−1.2	[a]46.2	+2.3	25.6	−3.3	12.7	−0.4	39.3	+0.7
Pembina	2.3	+5.0	14.2	+12.4	20.0	+3.9	49.1	+11.6	54.0	+1.6	58.8	−3.9	63.4	−4.0	65.9	+2.0	56.0	+2.4	48.6	+7.8	24.6	+2.4	11.8	+5.2	39.1	+3.9
Power	[c] 5.2	+0.3	19.4	+11.0	[c]23.6	0.0	[a]55.4	+13.2	54.2	−0.3	60.0	−4.3	64.5	−4.2	64.3	−2.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	7.4	−1.5	20.0	+13.2	26.6	+5.9	51.4	+7.2	[a]52.8	−1.1	55.9	−6.8	64.8	−3.8	[a]65.6	−0.7	55.6	−1.8	49.6	+6.1	31.6	+5.6	17.8	+3.4	41.6	+2.2
Towner	4.5	+0.3	17.4	+11.9	26.2	+10.6	50.6	+9.8	52.2	−1.0	56.9	−5.7	63.2	−2.9	66.1	+2.1	54.8	+0.3	46.6	+3.7	26.1	+5.1	12.2	−0.2	39.7	+2.8
Turtle Lake	8.4	.....	18.8	.....	24.9	.....	52.2	.....	52.4	.....	[a]56.6	.....	62.1	.....	65.6	.....	.....	.....	.....	.....	.....	.....	16.8	.....	.....	.....
University	1.8	−2.2	15.9	+8.6	24.7	+1.9	49.2	+7.3	51.7	−2.0	57.3	−6.1	63.1	−4.1	64.3	−0.5	56.0	0.0	45.6	+1.6	26.6	+1.3	13.6	+2.3	39.2	+0.7
Wahpeton	7.0	−1.0	19.6	+9.2	23.8	−3.0	51.6	+7.2	51.8	−4.0	57.8	−7.8	63.0	−6.2	61.5	−5.9	58.4	−0.3	49.8	+3.0	33.0	+6.2	16.4	+0.9	41.1	−0.2
Walhalla	3.2	.....	15.0	.....	[a]23.6	.....	52.2	.....	[b]52.8	.....	[f]56.9	.....	[a]65.2	.....	[f]67.8	.....	.....	.....	46.5	.....	25.8	.....	13.4	.....	.....	.....
Washburn	[a] 9.4	+1.7	.....	.....	[d]25.4	−0.1	[a]52.7	+8.2	52.6	−0.9	[c]58.4	−5.7	[d]63.1	−5.4	[a]66.2	−1.1	55.9	−2.2	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	1.8	.....	16.0	.....	[b]24.2	.....	51.2	.....	[b]52.2	.....	56.2	.....	61.4	.....	65.8	.....	52.5	.....	43.3	.....	23.8	.....	8.6	.....	38.1	.....
Williston	8.5	+2.0	18.6	+10.7	21.6	0.6	51.6	+11.1	52.4	−1.9	57.6	−5.9	62.0	−7.4	66.8	−1.1	52.3	−7.2	47.9	+5.0	29.7	+4.5	18.8	+5.2	40.6	+1.2
Willow City	- 1.9	−2.8	14.6	+11.2	22.9	+4.8	45.0	+4.8	46.9	−5.0	51.8	−10.0	55.2	−10.2	60.4	−3.4	53.2	−1.2	43.5	+1.3	24.2	+3.4	9.0	−0.7	35.4	−0.6
Zap	7.9	.....	17.6	.....	21.6	.....	51.8	.....	50.7	.....	57.0	.....	61.7	.....	64.4	.....	54.4	.....	47.6	.....	31.5	.....	19.2	.....	40.4	.....
Moorhead, Minn.	4.9	+2.2	18.8	+11.8	23.6	+2.2	51.4	+10.0	51.7	−3.1	59.2	−5.1	65.2	−3.5	65.2	−0.7	57.9	+1.3	48.4	+5.6	29.4	+5.0	16.4	+5.7	41.0	+2.6

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1915, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Amenia	[k]42	11	43	18	48	†27	84	17	82	31	82	†25	90	12	[a]93	13	[d]89	5	75	22	60	5	42	7
Aplin	[a]38	† 4	[a]36	9	[b]48	†22	[a]88	21	85	12	[c]82	25	[j]85	12	[a]96	31	[d]92	1	[f]81	22	66	3	48	23
Ashley	36	9	39	18	46	22	84	14	84	10	[d]82	25	[f]88	12	87	31	87	2	77	22	66	5	45	7
Beach	46	3	44	17	47	22	85	†13	85	9	87	25	89	2	95	31	96	1	80	21	65	4	37	† 6
Berthold Agency	41	5	37	17	50	23	89	21	[b]81	10	84	25	89	12	96	31	93	1	79	21	[b]66	5	45	22
Bismarck	40	12	37	10	50	22	88	14	83	10	86	25	86	9	91	31	92	2	80	22	68	5	44	22
Bottineau	37	12	35	19	54	23	87	21	82	30	80	1	88	22	94	† 6	92	4	74	15	64	5	32	† 4
Bowbells	38	12	38	17	[a]53	23	87	21	82	10	81	†24	85	22	95	31	88	5	76	14	[a]63	5	41	21
Bowman	40	12	48	23	51	23	83	†14	82	9	83	25	86	12	95	31	95	1	79	22	65	5	52	9
Buford	36	18	40	†16	55	23	81	†14	.....	.....	94	2	90	9	95	31	97	1	76	18	66	1	48	7
Cando	30	1	34	18	[a]59	27	[f]94	22	98	27	83	3	96	16	91	31	97	1	[l]82	24	67	5	35	7
Carson	44	12	45	10	48	†17	86	†14	82	10	84	25	85	12	95	31	92	1	.....	.....	.....	.....	[l]40	†22
Colgate	32	9	43	18	50	11	83	†17	83	10	84	25	88	13	91	†13	91	2	75	22	58	5	40	22
Crosby	.....	.....	.....	.....	49	21	[b]82	13	80	10	82	24	85	22	[a]91	31	[a]85	5	[a]72	21	60	1	[d]37	† 6
Devils Lake	32	4	35	18	51	23	83	21	79	31	79	3	86	12	90	31	96	2	73	1	62	5	36	22
Dickinson	38	9	43	16	48	23	85	14	80	9	85	25	97	11	96	31	97	1	77	18	61	3	42	† 3
Donnybrook	35	†12	34	17	52	23	[a]84	21	[a]82	10	78	1	81	†12	[a]91	31	85	4	72	† 9	62	5	39	6
Dunseith	36	12	34	18	[c]52	23	[a]85	21	[b]82	31	82	1	85	22	92	31	89	4	68	†14	[a]61	5	36	7
Eckman	36	17	34	16	57	23	[a]90	21	82	10	79	25	[a]86	23	95	31	95	1	73	18	[a]67	5	[a]38	† 6
Edgeley	39	3	41	18	48	22	83	†14	86	10	83	25	90	13	91	31	90	2	76	22	68	5	47	8
Fessenden	35	4	37	17	49	21	88	14	84	10	79	25	87	12	90	31	94	2	77	22	71	5	40	† 7
Forman	44	5	[a]44	†18	[a]53	23	[c]99	15	88	10	86	25	92	13	90	†13	92	† 1	84	22	64	5	45	7
Fullerton	35	† 1	37	17	44	†22	82	17	85	10	83	25	88	13	87	†10	87	† 1	73	22	62	3	45	7
Garrison	35	18	[b]34	16	52	23	[b]87	20	81	10	81	25	84	12	93	31	90	1	81	22	63	5	46	4
Goodall	35	† 3	34	17	48	23	83	14	82	9	84	24	85	12	94	31	96	1	77	22	65	5	41	4
Grafton	32	10	36	17	[a]50	22	83	†17	83	31	83	3	84	†12	92	†12	95	2	[b]74	1	[a]57	5	36	7
Grand Rapids	[a]43	14	43	18	47	†22	82	†14	84	10	82	†25	89	†11	88	†15	93	2	77	22	68	5	45	7
Granville	25	1	37	16	53	24	89	20	79	10	80	† 1	87	31	94	31	[g]89	.....	75	24	65	† 2	42	6
Hannah	30	† 5	32	†16	54	23	84	†17	79	31	78	† 1	85	12	94	31	96	2	72	1	60	5	[k]34	7
Hansboro	40	8	39	15	63	10	[e]91	17	[f]91	30	80	† 1	88	12	93	†13	96	2	73	1	[g]65	5	35	7
Hettinger	.....	.....	.....	.....	.....	.....	84	21	80	12	85	25	88	13	94	31	92	1	85	22	65	5	55	3
Hillsboro	33	13	39	17	46	†22	83	†17	80	31	82	3	85	†12	90	†13	91	2	78	22	57	5	39	7
Howard	33	18	33	†13	44	22	86	14	86	10	85	24	84	9	92	30	90	1	78	22	61	5	42	3
Jamestown	37	12	39	18	49	22	87	†14	86	10	89	26	92	13	95	16	91	† 1	85	22	69	5	[a]40	7
Lakota	30	1	36	21	[c]46	22	[a]81	21	79	31	80	3	[a]86	†11	93	†13	[a]91	2	68	† 1	54	5	33	22
Lamoine	33	† 1	34	17	48	22	88	14	84	10	81	25	86	12	87	31	[a]91	2	82	22	[d]66	5	[c]38	† 2
Langdon	31	12	33	18	49	3	82	21	80	31	78	1	84	12	92	†11	91	5	73	1	58	5	32	† 4
Larimore	31	10	40	18	46	†22	82	17	82	31	80	† 2	84	12	91	31	90	† 2	[a]72	1	52	3	38	7
Lisbon	41	12	38	†18	55	28	86	†14	87	10	84	25	90	12	90	†10	93	2	74	1	62	1	34	6
McHenry	33	4	36	18	48	22	84	†14	83	10	83	25	88	12	94	12	94	2	73	22	63	5	38	† 7
McKinney	38	9	40	†17	54	23	90	13	88	10	81	1	88	22	100	31	98	1	72	18	66	5	43	6
McLeod	51	4	38	†18	50	27	87	14	79	9	86	26	90	†13	97	13	90	† 2	80	22	62	5	46	7
Maddock	35	13	37	†16	53	†22	88	14	82	10	81	† 2	87	12	92	31	95	2	73	22	67	5	39	7
Mandan	.....	.....	.....	.....	[b]49	†22	[a]88	14	[a]83	10	85	25	[a]86	† 9	[a]87	6	92	2	81	23	68	5	44	7
Manfred	34	11	38	†15	52	23	89	14	82	10	78	† 1	87	† 9	91	31	90	1	73	22	65	5	40	7
Marmarth	41	11	40	†10	49	22	82	13	81	† 9	85	25	88	23	94	31	93	1	80	22	68	4	[b]54	9
Marstonmoor	35	† 9	38	†17	[a]50	22	87	14	87	10	[b]82	25	86	9	90	31	92	2	[a]80	22	.....	.....	.....	.....
Mayville	31	† 5	39	18	48	22	84	†17	81	31	82	† 1	89	†12	92	13	93	† 2	[a]74	1	58	† 1	38	7
Melville	[a]42	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[d]91	31	95	2	[f]75	1	[c]64	5	[d]34	† 6
Minot	46	18	40	16	63	23	98	21	90	†10	89	2	87	† 9	96	31	104	1	74	18	65	5	43	6
Minto	[a]31	† 6	45	19	46	†12	83	†21	82	31	84	27	87	12	92	†12	94	2	71	† 1	56	5	35	7
Mott	43	3	44	18	53	23	84	†13	83	12	81	25	88	23	96	31	95	1	76	22	68	3	57	8
Napoleon	37	3	39	18	50	22	87	14	87	10	86	25	91	12	91	†13	92	2	83	23	67	5	43	22
New England	[d]35	4	[c]32	10	46	†24	87	14	82	12	89	25	87	12	92	31	94	1	78	†21	62	5	47	5
New Rockford	32	† 5	50	28	70	28	85	14	.....	.....	80	25	.....	.....	90	16	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	40	† 4	38	†10	48	23	88	21	84	10	85	25	86	12	95	31	91	1	82	22	67	5	45	2
Orange	41	12	45	9	55	23	85	21	80	10	83	24	86	12	92	31	91	1	87	22	67	5	48	6
Oriska	36	11	[a]41	18	46	27	82	†17	82	11	82	29	97	12	92	13	90	2	[b]78	22	[g]58	† 1	.....	.....
Park River	30	† 1	37	18	50	†23	82	17	80	31	80	† 3	83	12	93	31	97	2	73	1	60	6	37	7
Pembina	32	7	38	18	48	22	79	†21	88	30	91	27	92	5	98	14	98	2	70	1	55	4	34	4
Power	[c]35	† 4	42	18	[c]45	17	[a]86	18	86	12	85	3	88	12	90	13	.....	.....	.....	.....	.....	.....	.....	.....
Steele	37	9	48	16	[a]50	22	[b]82	†14	[b]76	12	75	†23	87	11	85	† 9	94	2	77	22	60	† 3	45	4
Towner	34	† 1	35	16	53	22	88	21	79	10	80	1	87	†12	96	31	94	1	73	18	66	5	38	6
Turtle Lake	42	1	35	16	49	27	[b]86	21	80	10	[a]87	27	87	12	92	31	.....	.....	.....	.....	.....	.....	57	14
University	31	10	39	18	47	22	82	17	81	31	82	† 3	86	12	92	31	92	2	72	† 1	57	5	37	7
Wahpeton	41	12	41	18	48	27	83	17	81	†10	85	26	91	12	92	15	90	5	80	†19	71	5	48	7
Walhalla	33	12	38	18	[a]50	21	84	†17	[a]83	31	[f]84	1	[l]88	12	[j]99	14	97	2	75	14	60	5	37	7
Washburn	[a]38	4	.....	.....	[e]51	†22	[a]86	†14	83	10	[c]90	27	[d]90	12	[a]96	31	97	2	.....	.....	.....	.....	.....	.....
Westhope	35	12	32	†17	[i]45	† 9	90	21	[b]81	9	80	1	85	21	93	† 9	92	4	72	18	64	6	36	6
Williston	36	18	40	17	50	23	84	13	80	9	85	24	87	9	93	31	94	1	78	21	64	4	42	3
Willow City	30	1	33	17	50	22	82	14	75	31	74	30	84	12	89	†10	86	2	71	14	66	5	35	6
Zap	36	† 3	35	10	48	23	87	21	83	10	82	25	88	29	96	31	93	1	83	22	66	5	43	2
Moorhead, Minn.	34	4	38	17	46	22	83	21	80	31	82	26	87	13	89	14	88	2	79	22	58	3	41	7

† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days, etc.

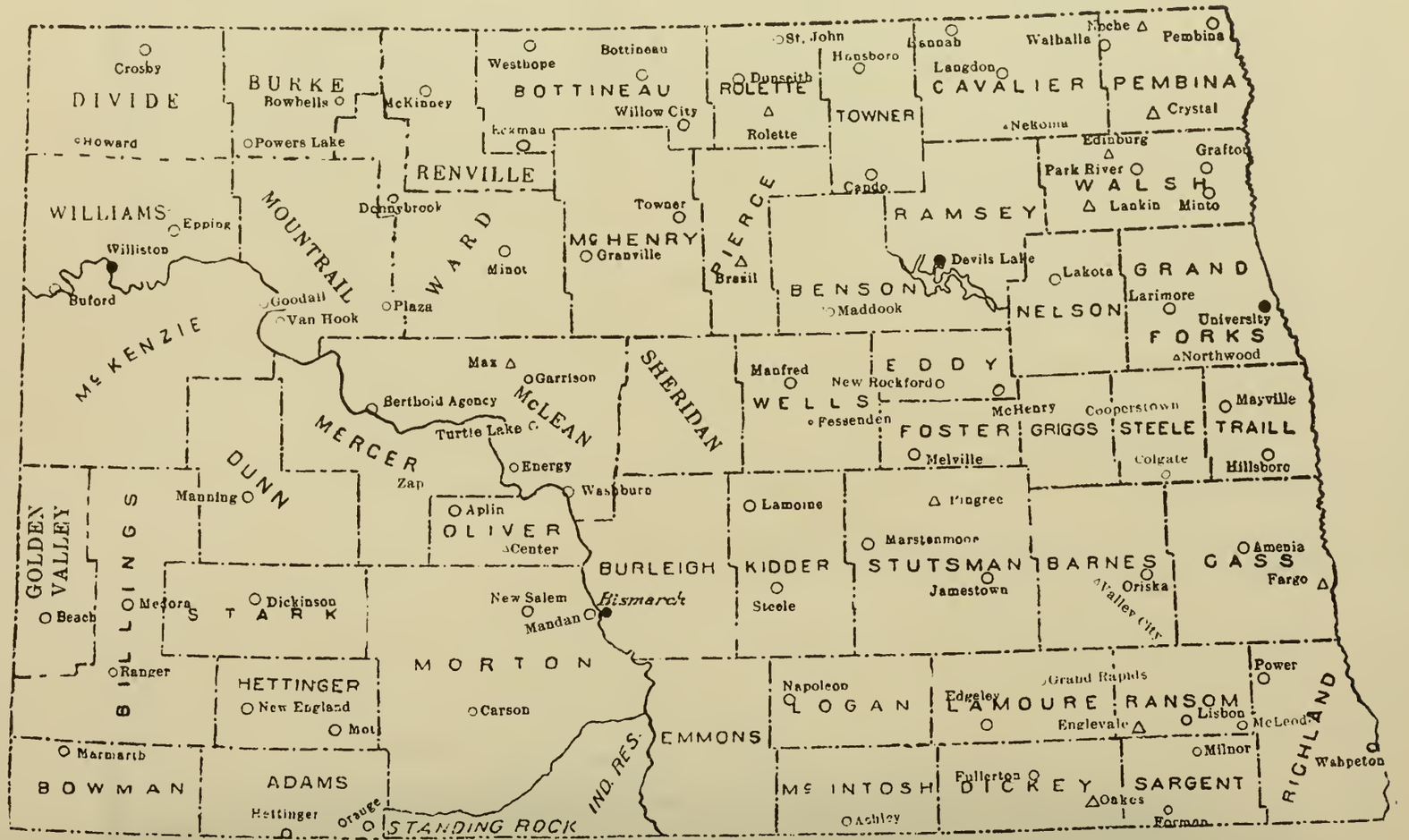
Monthly Minimum Temperatures for the Year 1915, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Amenia	k−34	27	− 9	3	− 5	† 1	19	2	27	18	27	9	37	4	32	26	31	15	22	20	0	16	−11	27
Aplin	a−39	27	a− 6	14	b− 8	8	a12	1	25	†18	e30	† 8	j38	4	a31	29	d26	13	f15	8	0	14	−10	31
Ashley	−37	27	−10	† 2	− 7	2	15	2	26	18	32	7	38	5	34	24	33	21	20	8	6	14	− 9	14
Beach	−36	28	− 9	15	−10	† 7	26	11	20	8	26	8	34	2	36	28	29	14	19	8	− 5	29	−11	31
Berthold Agency	−43	27	−13	15	−13	8	11	1	b22	8	26	16	a37	† 4	33	24	24	21	18	8	b 1	14	−15	31
Bismarck	−35	27	0	8	− 1	8	14	1	24	18	33	8	39	5	37	24	32	21	21	8	8	29	− 6	27
Bottineau	−44	27	−13	6	− 8	2	13	1	28	7	26	15	35	2	30	24	28	13	16	20	− 4	30	−20	27
Bowbells	−41	26	−10	5	a−11	2	9	1	18	8	22	16	30	4	34	26	24	13	16	8	a− 9	14	−13	26
Bowman	−37	27	− 5	† 1	− 7	8	15	1	21	18	29	16	37	† 2	35	24	28	30	18	8	− 2	29	−16	31
Buford	−41	27	− 7	28	−11	8	17	1	22	8	27	8	40	3	38	29	27	†13	22	8	5	†14	0	†18
Cando	−40	27	− 9	6	− 4	2	f12	2	17	6	28	15	32	5	24	26	29	11	b24	† 7	1	†14	e−18	†17
Carson	−40	27	− 8	8	−10	8	6	1	23	† 6	32	† 8	32	5	30	29	24	21	.....	.....	.....	.....	− 2	26
Colgate	−35	27	− 6	6	− 8	2	17	2	25	18	24	9	38	5	27	26	33	15	22	20	3	16	−12	27
Crosby	.....	.....	.....	.....	− 5	2	b11	1	19	8	24	16	41	† 5	a39	† 2	a27	13	a20	† 8	− 8	29	d−19	31
Devils Lake	−38	27	− 8	6	− 6	2	14	1	22	6	33	7	40	5	31	26	33	26	20	8	0	30	−14	17
Dickinson	−39	27	− 8	15	−11	8	11	1	22	8	28	8	37	2	30	24	26	21	17	8	− 2	29	−12	†30
Donnybrook	−39	27	− 7	5	−15	2	a10	1	21	8	26	16	38	5	31	26	25	13	16	8	− 8	14	−12	14
Dunseith	−42	27	−10	5	c− 9	2	b12	1	j25	6	26	15	37	5	30	24	27	13	15	8	1	29	−18	27
Eckman	−42	27	−10	† 5	−15	2	a 9	1	20	† 7	26	16	a35	† 5	25	26	24	13	15	8	a− 4	14	a−21	31
Edgeley	−34	27	−11	2	− 4	2	14	† 1	27	18	26	9	41	2	33	26	33	15	22	† 8	5	14	− 9	14
Fessenden	−40	27	− 7	1	− 2	2	10	1	26	7	29	† 9	37	5	26	26	29	21	12	8	4	29	−15	†14
Forman	−36	27	a− 6	2	a−10	7	19	† 1	28	† 6	33	† 7	42	† 2	40	†26	32	21	23	8	7	14	−10	27
Fullerton	−34	27	− 9	2	− 6	2	18	2	26	6	31	9	41	† 2	37	24	34	21	23	8	6	15	−12	17
Garrison	−39	27	b− 4	† 8	− 8	2	b13	1	22	8	28	† 8	37	5	32	†24	28	†13	16	8	0	14	−16	31
Goodall	−40	27	− 5	15	− 8	2	18	1	24	8	26	16	40	5	37	24	26	13	20	8	0	29	−21	31
Grafton	−38	27	−11	6	− 9	2	15	2	26	18	23	7	37	5	27	26	30	15	b21	† 8	a− 2	17	−23	27
Grand Rapids	m− 36	27	−12	2	− 6	2	12	2	25	6	29	9	40	† 2	35	†26	33	15	17	27	0	14	−15	14
Granville	−37	27	− 5	† 4	− 7	1	12	1	26	18	30	16	40	5	30	28	g28	13	18	8	− 8	14	−16	31
Hannah	−46	27	−17	6	−19	2	10	1	15	6	25	† 7	34	2	23	25	25	11	14	20	−10	22	k−21	17
Hansboro	−41	27	−18	1	−12	2	c11	† 1	22	6	29	9	34	5	27	26	28	†11	20	8	g 1	14	−18	27
Hettinger	.....	.....	.....	.....	.....	.....	19	1	22	7	30	16	33	5	34	29	26	30	19	8	4	29	−12	31
Hillsboro	−36	27	− 9	2	− 5	2	18	2	29	18	30	9	42	5	34	26	37	†15	24	20	− 1	16	−14	27
Howard	−44	27	− 8	5	−10	2	15	1	15	8	22	16	40	† 3	36	2	24	13	19	8	− 6	29	−14	31
Jamestown	−35	†27	− 5	3	− 5	3	12	1	26	6	31	7	40	5	36	26	34	†13	20	† 8	4	†14	−10	27
Lakota	−42	27	−11	6	c−18	2	a 9	1	24	6	24	7	a35	5	28	26	a30	21	20	† 8	− 6	24	−19	27
Lamoine	−42	27	− 6	† 5	− 6	2	12	1	21	6	28	15	36	4	31	26	a26	13	13	8	a 1	14	e−15	7
Langdon	−48	27	−12	6	−20	2	17	1	21	6	27	7	36	† 2	32	29	30	15	18	20	0	†14	−23	27
Larimore	−37	27	− 7	6	−12	2	20	† 1	28	9	32	9	38	2	30	26	35	26	a20	8	− 3	22	−15	27
Lisbon	−35	27	−20	† 1	−10	2	14	12	26	6	26	9	40	† 2	37	29	32	15	24	†11	0	28	−18	†30
McHenry	−40	27	−12	6	1	25	15	† 1	23	6	29	7	37	5	30	†24	31	†11	17	8	− 3	13	−18	17
McKinney	−39	27	− 8	8	−22	2	.....	.....	22	† 8	20	16	34	7	32	26	23	13	10	8	− 3	29	−15	14
McLeod	−30	27	−20	2	−15	9	.....	.....	18	† 6	34	† 6	41	5	37	29	33	†15	23	8	3	16	−15	27
Maddock	−42	27	− 8	6	− 6	2	a10	1	21	6	29	7	40	†20	27	26	30	11	17	8	1	14	−16	17
Mandan	.....	.....	.....	.....	a− 3	8	14	1	26	18	32	8	41	† 2	36	24	34	21	21	8	8	†14	− 7	31
Manfred	−39	26	− 5	† 5	− 2	25	13	1	24	6	30	15	37	5	26	26	32	11	21	20	1	14	−15	27
Marmarth	−35	27	− 9	15	− 5	7	a19	1	23	8	30	16	36	5	35	24	27	†14	a16	8	− 2	29	b−16	31
Marstonmoor	−45	†25	a−13	7	a− 4	† 2	a 8	1	22	6	e24	7	31	5	29	†24	24	21	e13	8	.....	.....	.....	.....
Mayville	−35	27	− 7	† 2	− 7	2	16	2	28	18	26	9	38	5	30	26	36	15	a22	8	− 2	16	−14	29
Melville	a−40	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	d31	26	35	†11	f20	8	e 5	14	d−20	28
Minot	−40	28	− 8	16	−15	2	5	1	20	18	24	16	33	5	26	26	25	13	16	8	0	14	−12	19
Minto	a−40	27	−10	6	−13	2	10	1	25	18	27	7	30	23	28	26	32	15	20	20	0	22	−17	27
Mott	−38	27	− 8	14	−12	8	13	1	22	18	31	8	33	4	30	24	27	19	12	8	0	29	−20	30
Napoleon	−41	27	−13	2	− 5	† 2	8	1	20	18	29	15	36	3	30	24	32	†15	16	8	2	14	−22	16
New England	d−39	27	c− 2	15	−13	8	16	1	21	8	29	16	35	3	36	†24	28	21	19	8	5	29	−14	31
New Rockford	−36	26	− 5	14	.....	.....	18	6	.....	.....	30	† 4	.....	.....	19	26	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	−38	27	− 2	15	− 4	25	11	2	22	18	29	8	35	2	32	26	30	13	17	8	2	29	−10	31
Orange	−38	27	− 7	15	−15	8	13	1	22	18	31	16	31	3	32	29	29	†21	16	8	1	29	−14	31
Oriska	−36	27	a− 6	7	− 9	2	12	1	26	6	30	7	39	5	31	26	33	15	b23	8	g 1	30	.....	.....
Park River	−35	27	− 7	2	−11	2	20	2	27	18	27	7	39	2	28	26	30	15	b18	29	3	16	−15	27
Pembina	−40	27	−15	1	− 8	2	18	2	29	18	32	7	38	5	29	26	32	†11	22	29	− 6	30	−12	17
Power	c−38	27	− 9	1	c− 9	2	a25	† 2	27	18	32	9	40	7	35	26	.....	.....	.....	.....	.....	.....	.....	.....
Steele	−43	27	− 2	† 7	1	2	j26	1	a33	2	32	15	40	5	b34	25	32	21	20	8	4	29	− 7	13
Towner	−42	27	− 8	7	− 7	2	12	1	26	† 7	29	† 8	36	5	29	26	28	13	16	8	− 1	14	−16	27
Turtle Lake	−38	27	− 3	15	− 4	2	b13	1	25	18	a29	8	37	2	33	26	.....	.....	.....	.....	.....	.....	−12	31
University	−38	27	− 9	1	− 8	2	18	2	27	18	31	7	40	5	35	29	35	14	22	8	3	30	−19	27
Wahpeton	−35	27	− 5	6	− 5	25	19	2	28	18	32	9	35	5	31	29	35	16	24	8	0	16	−18	27
Walhalla	−38	27	− 8	5	a−23	2	11	2	b20	17	e28	8	m40	25	j27	26	a29	15	a22	8	− 2	22	−15	14
Washburn	a−36	27	.....	.....	d− 2	2	a15	1	26	18	e30	8	d38	4	a37	29	32	21	.....	.....	.....	.....	.....	.....
Westhope	−44	26	−10	5	i−18	2	12	† 1	b22	7	27	† 8	35	17	32	25	24	21	15	8	− 4	†29	−25	17
Williston	−40	27	− 8	7	− 4	10	18	1	22	8	30	16	42	20	39	2	26	13	24	8	1	7	− 7	31
Willow City	−46	27	−17	1	−11	2	10	1	21	9	24	11	33	6	26	26	24	13	15	8	− 3	29	−27	17
Zap	−42	27	− 9	15	− 5	10	12	1	22	8	27	16	36	4	34	†24	26	21	17	8	1	29	−13	31
Moorhead, Minn	−31	27	− 5	6	− 3	2	22	12	29	18	32	9	44	5	36	26	35	15	24	8	− 1	16	−12	27

† Occurred on other dates also.

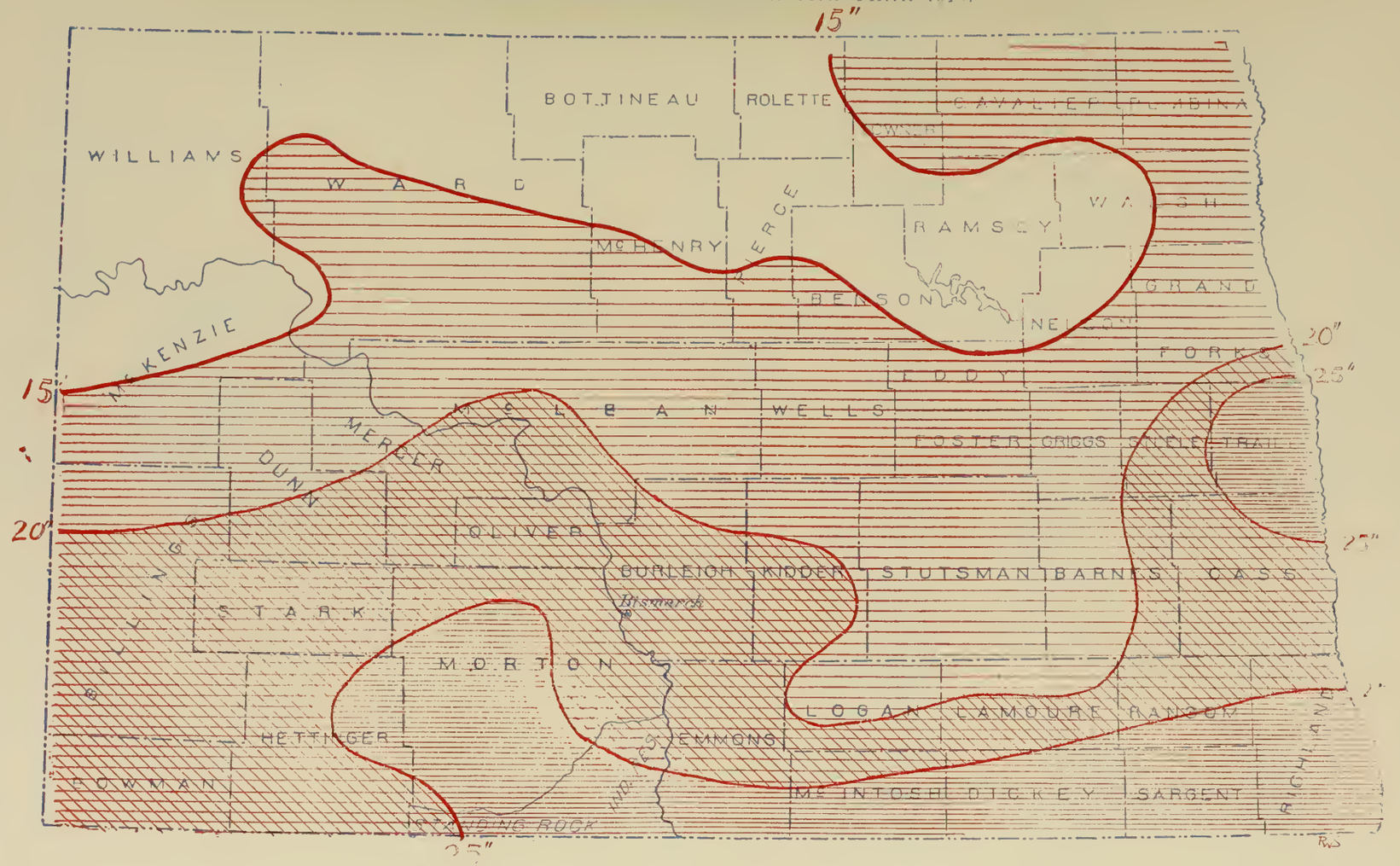
[a] indicates 1 day missing, [b] 2 days missing, etc.

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

TOTAL PRECIPITATION FOR THE YEAR 1915.



Scale of Shades, in inches:

Less than 15 | 15 to 20 | 20 to 25 | More than 25

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Amenia	E. T. Carley.	Epping	M. E. Uggen.	Lisbon	W. S. Adams.	New Rockford	H. H. Maxw ll.
Aplin	J. B. Hagelbarger.	Fessenden	G. T. Seymour.	McHenry	P. E. Truden.	New Salem	J. Christiansen.
Ashley	R. C. Miles.	Forman	A. Maltby.	McKinney	N. P. Swenson.	Orange	J. E. Goforth.
Beach	D. J. Steiner.	Fullerton	F. O. Alin.	McLeod	E. W. Griggs.	Oriska	J. J. Taylor.
Berthold Agency	Chas. L. Hall.	Garrison	G. L. Robinson.	Maddock	W. M. Jackson.	Park River	F. A. McCray.
Bottineau	H. F. Steinmeier.	Goodall	C. H. Layman.	Mandan	N. G. P. F. Sta.	Pembina	C. W. Shumaker.
Bowbells	G. H. Phelps.	Grafton	A. R. T. Wylie.	Manfred	P. B. Anderson.	Power	J. Radcliffe.
Bowman	L. S. Diehl.	Granville	W. A. Christianson.	Manning	A. J. Bretzlaff.	Powers Lake	Chas. Frank.
Buford	P. Elmore.	Grand Rapids	G. H. Leick.	Marmarth	S. P. Grane.	Ranger	C. M. Hubbard.
Cando	E. T. Judd.	Hannah	J. Moffatt.	Marstonmoor	H. H. McCumber.	Steele	H. S. Wood.
Carson	J. W. Evans.	Hansboro	C. E. Blackorby.	Mayville	W. C. Gould.	Towner	B. Bagley.
Colgate	H. P. Rice.	Hettinger	A. J. Ogaard.	Medora	L. H. Moore.	Turtle Lake	E. J. Jones.
Cooperstown	S. Friswold.	Hillsboro	F. E. Mayall.	Melville	J. P. Kidder.	University	H. E. Simpson.
Crosby	H. G. Anderson.	Howard	C. P. Amsbaugh.	Milnor	Hj. Edman.	Wahpeton	F. E. Smith.
Dickinson	L. R. Waldron.	Jamestown	S. Calvelage.	Minot	W. I. Faris.	Walhalla	I. DeL. Lee.
Donnybrook	Geo. Michel.	Lakota	C. R. Pettes.	Minto	C. M. Evans.	Washburn	A. Wacker.
Dunseith	J. G. Lamont.	Lamoine	E. V. Virgin.	Mott	O. H. Opland.	Westhope	W. A. Meddaugh.
Eckman	J. Nussbaum.	Langdon	R. T. Burke.	Napoleon	C. J. Hoof.	Willow City	M. A. Ostby.
Edgeley	O. A. Thompson.	Larimore	G. G. Graham.	New England	J. M. Connolly.	Zap	H. A. Crandall.
Energy	N. W. Solenberger.						

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Center	W. T. Maher.	Fullerton ‖	F. O. Alin.	Mandan ‖	Mandan Tel. Co.	Rugby ‖	Postmaster.
Crystal*	Postmaster.	Grafton* ‖	Postmaster.	Marion‖	Postmaster.	University‖‡	H. E. Simpson.
Eckman*	Postmaster.	Grand Forks ‖	R. B. Griffith Co.	Minot† ‖	Postmaster.	Valley City	J. E. Switzer.
Edgeley †‖	Postmaster.	Langdon ‖	R. T. Burke.	Neche* ‖	Postmaster.	Wahpeton ‖	Postmaster.
Edinburg ‖	Postmaster.	Lankin* ‖	Postmaster.	Northwood‖§	G. P. Johnson.	Bismarck†‖	U. S. Weather Bur.
Englevale*‖	Postmaster.	Lisbon ‖§	Postmaster.	Oakes†‖	Postmaster.	Devils Lake†‖§	U. S. Weather Bur.
Fargo ‖	Postmaster.					Williston†‖§	U. S. Weather Bur.

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags. ‡ By wireless telegraph.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

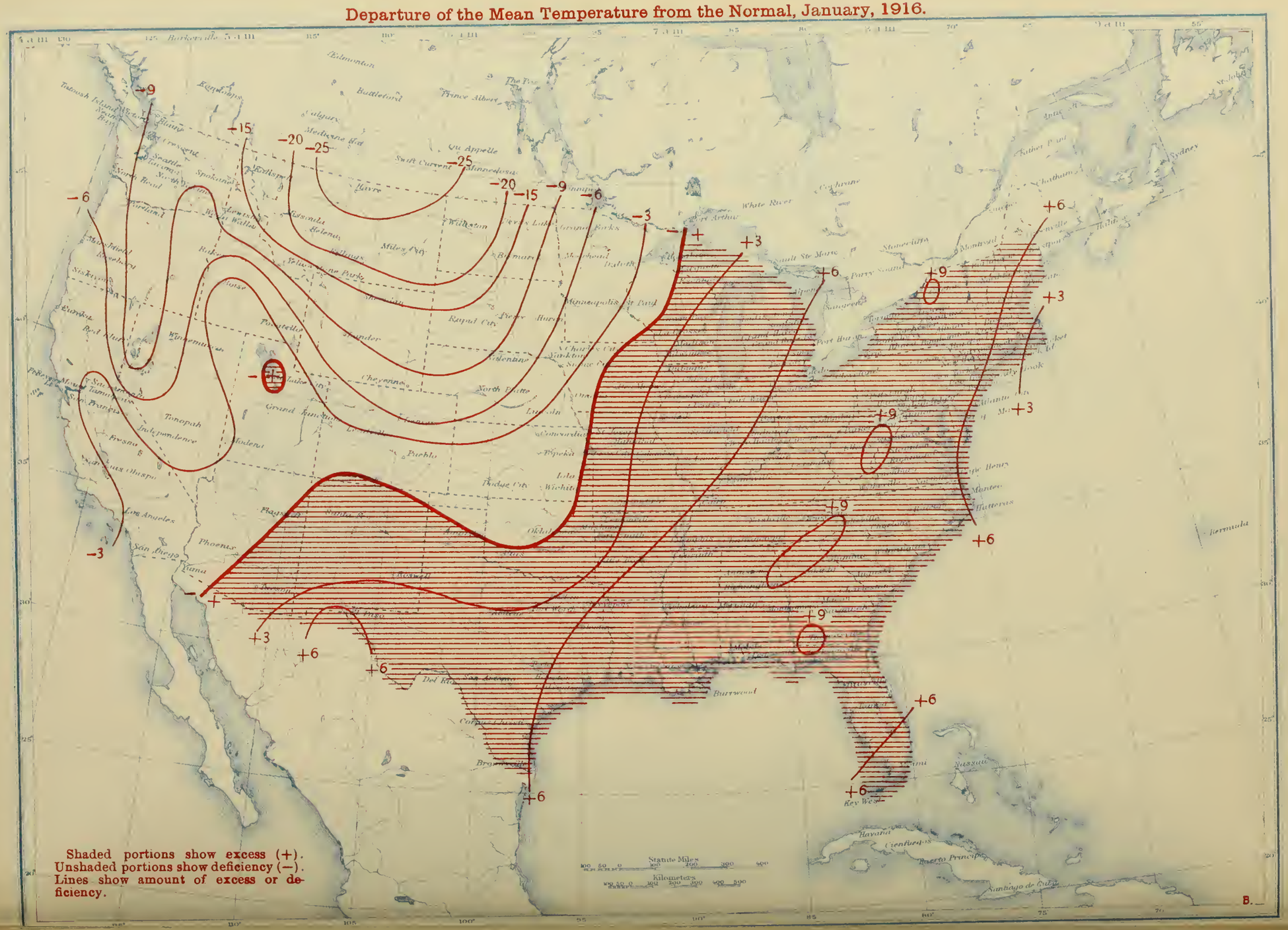
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JANUARY, 1916

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 26, 1916.

Departure of the Mean Temperature from the Normal, January, 1916.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXVI. BISMARCK, N. D., JANUARY, 1916. No. 1.

GENERAL SUMMARY.

The weather during January, 1916, will long be remembered, the temperature average being the lowest on record in the climatological history of the State, and the precipitation (which consisted wholly of snow) was, with a single exception, the heaviest of record. No other January since the climatological service was established in 1892 has combined such low mean temperature, heavy precipitation and large wind movement. Much delay to traffic, both railway and on highways, was experienced. Livestock on the ranges suffered to a large extent, necessitating much housing and feeding of them.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.21 inches. The highest was 30.83 inches at Bismarck, Burleigh County, on the 13th; the lowest was 29.31 inches at Devils Lake, Ramsey County, on the 20th.

TEMPERATURE.

The mean temperature for the State was -6.4°, or 11.6° below the normal, and 12.2° lower than the mean for January, 1915. The highest mean reported was -0.3° at Forman, Sargent County; the lowest was -14.5° at Westhope, Bottineau County. The highest temperature reported was 49° at Hettinger, Adams County, on the 24th; the lowest was -56° at Goodall, McKenzie County, on the 12th, the lowest of record in the State. The greatest monthly range of temperature was 96° at Hettinger, Adams County; the least was 56° at Lisbon, Ransom County. The greatest daily range of temperature was 64° at Hettinger, Adams County, on the 24th. The distribution of temperature was quite uniform, both geographically and throughout the month. Usually the highest temperature occurred on the 23d, and the lowest on the 12th or 13th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 89.4 per cent, the average at 7 a. m. being 90.0 per cent, and at 7 p. m. 88.8 per cent.

PRECIPITATION.

The average precipitation for the State was 1.38 inches, or 0.89 inch above the normal, and 1.09 inches more than the average for January, 1915. The greatest monthly amount reported was 3.30 inches at Goodall, McKenzie County; the least was 0.20 at Orange, Adams County. The greatest amount recorded in any twenty-four consecutive hours was 1.50 inches at Dunseith, Rolette County, on the 11th. The average number of days with 0.01 inch or more of precipitation was 6. All of the precipitation occurred in the form of snow, the average being 15.1 inches. Stormy periods were the 4th, 9th to 11th, inclusive, 18th-19th, and from the 25th to the 29th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.3 miles. The greatest wind movement was 9,737 miles at Devils Lake, an average of 13.1 miles per hour; the least was 6,058 miles at Williston, an average of 8.1 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 44 miles per hour from the northwest at Bismarck on the 10th, and at University on the 5th.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 13, partly cloudy days 8, and cloudy days 10.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−2.3	58	−52	0.79	+0.30	4	15	8	8	nw.
1893...	0.8	−4.4	49	−48	0.98	+0.49	7	11	11	9	nw.
1894...	0.6	−4.6	71	−47	0.39	−0.10	4	13	7	9	nw.
1895...	−2.9	−8.1	42	−46	0.56	+0.07	5	16	8	7	nw.
1896...	5.3	+0.1	58	−42	0.70	+0.21	6	14	8	9	nw.
1897...	3.6	−1.6	49	−38	0.79	+0.30	5	13	9	9	nw.
1898...	14.6	+9.4	69	−32	0.11	−0.38	2	8	8	15	nw.
1899...	5.2	0.0	55	−41	0.25	−0.24	3	11	8	12	nw.
1900...	15.4	+10.2	70	−30	0.22	−0.27	3	15	4	12	nw.
1901...	7.7	+2.5	68	−39	0.28	−0.21	4	17	7	7	nw.
1902...	12.7	+7.5	51	−40	0.14	−0.35	2	16	6	9	nw.
1903...	9.4	+4.2	56	−37	0.66	+0.17	5	19	5	7	nw.
1904...	3.6	−1.6	50	−52	0.37	−0.12	5	12	7	12	nw.
1905...	0.9	−4.3	48	−40	0.30	−0.19	3	8	12	11	nw.
1906...	12.2	+7.0	60	−38	0.69	+0.20	4	14	9	8	nw.
1907...	−6.2	−11.4	45	−45	1.40	+0.91	8	21	5	5	nw.
1908...	17.0	+11.8	70	−38	0.18	−0.31	2	11	7	13	nw.
1909...	3.5	−1.7	53	−48	0.42	−0.07	4	14	8	9	nw.
1910...	9.4	+4.2	49	−35	0.33	−0.16	3	16	8	7	nw.
1911...	−1.0	−6.2	56	−43	0.91	+0.42	6	11	8	12	nw.
1912...	−4.6	−9.8	62	−52	0.35	−0.14	4	16	6	9	nw.
1913...	3.2	−2.0	60	−54	0.45	−0.04	5	12	9	10	nw.
1914...	14.8	+9.6	62	−38	0.50	+0.01	4	16	8	7	nw.
1915...	5.8	+0.6	51	−48	0.29	−0.20	3	12	9	10	nw.
1916...	−6.4	−11.6	49	−56	1.38	+0.89	6	13	8	10	nw.

Climatological Data for January, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	20	- 3.0	−8.3	35	21	−39	13	41	0.80	+0.35	0.70	8.0	4	23	0	7	n.	E. T. Carley
Aplin	Oliver	1,900	9	- 0.8[1]	.....	36[b]	23	−51[1]	13	35[1]	1.20	.....	0.60	12.0	8	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	19	- 2.6	−10.3	36	23	−44	13	42	1.60	+1.14	0.30	16.0	7	18	6	7	nw.	R. C. Miles
Beach	Golden Valley	2,576	10	- 4.8	.....	35	†23	−38	11	53	1.43	.....	0.65	18.0	5	13	12	6	nw.	D. J. Steiner
Berthold Agency‡‡	McLean	2,082	22	- 4.8	−11.5	33	21	−52	13	45	0.62	+0.21	0.25	10.5	4	17	5	9	nw.	C. L. Hall
Bismarck	Burleigh	1,674	42	- 5.0	−11.7	36	21	−45	13	40	0.81	−0.27	0.31	12.1	8	9	13	9	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	24	-12.6	−12.5	23	21	−47	13	44	1.08	+0.64	0.23	.....	13	11	7	13	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	4	-12.2	.....	26	22	−48	12	42	3.07	.....	1.40	.....	4	5	8	18	.....	G. H. Phelps
Bowman	Bowman	.....	2	- 2.8	.....	40	†22	−43	12	39	1.20	.....	0.40	12.0	7	14	0	17	.....	L. S. Diehl
Buford	Williams	1,944	37	- 6.1	−11.9	34	23	−49	12	49	1.51	+1.01	0.57	15.1	6	8	12	11	nw.	P. Elmore
Cando	Towner	1,488	15	-12.0[c]	−12.6	20[c]	19	−48[c]	†12	36[c]	0.50	+0.10	0.41	.....	2	.....	.....	.....	w.	E. T. Judd
Carson	Morton	.....	4	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.15	5.0	5	14	9	8	nw.	J. W. Evans
Colgate	Steele	1,177	2	- 5.2	.....	29	21	−40	13	34	2.10	.....	0.60	21.0	11	14	4	13	nw.	H. P. Rice
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	1.40	.....	1.00	14.0	3	21	3	7	nw.	S. Friswold
Crosby	Divide	1,954	9	- 9.5[b]	.....	24[b]	23	−43[b]	12	43[b]	1.31	.....	0.81	13.1	5	.....	.....	.....	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	12	- 8.2	−8.5	27	21	−44	12	38	0.71	+0.11	0.22	9.5	10	7	11	5	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	24	- 3.6	−14.0	39	23	−44	†12	39	0.80	+0.35	0.20	8.0	7	7	13	11	nw.	L. R. Waldron
Donnybrook	Ward	1,760	17	- 8.8	−12.4	31	24	−44	12	53	0.55	+0.20	0.20	5.8	5	13	13	5	nw.	Geo. Michel
Dunseith	Rolette	1,682	20	- 9.8	−13.1	19	20	−43	†12	40	1.70	+1.24	1.50	17.0	6	7	16	8	nw.	J. G. Lamont
Eckman	Bottineau	.....	11	-12.2	.....	21	†21	−53	13	46	1.28	.....	0.50	13.0	7	16	7	8	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	15	- 1.8	−9.6	34	21	−37	13	42	0.91	+0.64	0.51	12.0	4	3	12	16	nw.	O. A. Thompson
Energy †‡	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.25	.....	7	13	8	10	w.	N. W. Solenberger
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	1.23	.....	0.30	26.0	8	11	6	14	w.	M. E. Uggen
Fessenden	Wells	1,610	4	- 8.1	.....	33	21	−44	12	46	1.07	.....	0.32	10.0	7	11	11	9	.....	G. T. Seymour
Forman	Sargent	1,249	24	- 0.3	−7.2	36	21	−40	13	38	1.62	+1.11	0.60	16.2	8	16	4	11	nw.	A. Maltby
Fullerton	Dickey	1,439	18	- 2.3	−10.7	32	†21	−39	13	38	1.54	+0.89	0.45	15.4	6	12	8	11	nw.	F. O. Alin
Garrison	McLean	1,901	21	- 7.6	−14.8	28	21	−47	13	37	0.84	+0.33	0.31	7.8	8	14	9	8	nw.	G. L. Robinson
Goodall	McKenzie	2,200	2	-11.6	.....	25	† 8	−56	12	41	3.30	.....	0.65	26.0	8	11	2	18	nw.	C. H. Layman
Grafton	Walsh	827	24	- 9.0	−10.4	25	20	−45	13	38	1.76	+1.18	0.69	23.8	8	20	4	7	n.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	4	- 3.8	.....	33	21	−44	13	39	1.20	.....	0.30	12.0	6	14	0	17	nw.	G. H. Leick
Granville	McHenry	1,504	9	- 8.7[b]	.....	22	† 9	−43[3]	13	35[b]	0.39	.....	0.21	17.0	4	14	6	11	nw.	W. A. Christianson
Hannah	Cavalier	1,568	11	-13.9	.....	16	21	−54	12	34	2.90	.....	1.10	29.0	6	15	7	9	nw.	J. Moffatt
Hansboro	Towner	1,597	8	-10.2	.....	25	21	−43	12	42	3.50	.....	0.80	35.0	8	14	13	4	nw.	C. E. Blackorby
Hettinger	Adams	2,253	8	- 4.3	.....	49	24	−47	13	64	0.59	.....	0.21	.....	6	19	6	6	nw.	A. I. Ogaard
Hillsboro	Traill	901	10	- 4.8	.....	27	†20	−39	13	33	1.95	.....	0.80	19.5	7	16	6	9	nw.	F. E. Mayall
Howard	Williams	2,275	7	-11.8	.....	30	24	−46	12	54	1.30	.....	0.40	13.7	4	12	6	13	nw.	C. P. Ainsbaugh
Jamestown	Stutsman	1,390	24	- 6.3	−13.5	32	21	−40	13	39	1.33	+0.79	0.60	13.3	8	15	3	13	nw.	S. Calvelage
Lakota	Nelson	1,579	15	- 9.4	−7.9	20	†19	−44	†12	49	0.44	−0.38	0.20	11.0	9	12	19	0	w.	C. R. Pettes
Lamoine	Kidder	1,936	8	- 7.2	.....	32	21	−45	†12	39	1.30	.....	0.60	13.0	4	18	2	11	nw.	E. V. Virgin
Langdon	Cavalier	1,615	20	-11.4	.....	20	20	−50	12	42	1.70	.....	0.40	17.0	9	13	11	7	nw.	R. T. Burke
Larimore	Grand Forks	1,134	21	- 3.7	−7.0	27	21	−39	13	37	1.62	+1.12	0.60	16.2	8	13	5	13	nw.	G. G. Graham
Lisbon	Ransom	1,091	12	- 2.0	−7.3	18	† 4	−38	14	43	2.10	+1.53	1.00	21.0	4	13	4	14	nw.	W. S. Adams
McHenry	Foster	1,509	6	- 7.8	.....	26	21	−45	12	35	1.26	.....	1.00	12.6	5	21	4	6	nw.	P. E. Trudeau
McKinney	Renville	1,640	22	- 9.8[c]	−13.1	30[c]	19	−47[c]	13	39[c]	0.80	+0.44	0.60	8.0	2	.....	.....	.....	nw.	N. P. Swenson
McLeod	Ransom	1,075	4	- 2.3	.....	33	21	−41	13	36	2.20	.....	0.50	22.0	6	7	8	16	nw.	E. W. Griggs
Maddock	Benson	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. M. Jackson
Mandan	Morton	1,644	2	- 5.8	.....	34	21	−43	†13	40	0.28	.....	0.15	.....	6	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	- 6.2[a]	−10.1	27[a]	21	−41[a]	†11	42[a]	1.07	+0.39	0.25	11.0	8	16	8	7	nw.	P. B. Anderson
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.80	.....	2	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	7	- 4.4	.....	42	23	−45	12	45	0.38	.....	0.16	12.9	8	13	11	7	nw.	S. P. Grane
Marstonmoor	Stutsman	1,945	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	20	- 4.6	−11.2	30	21	−39	13	41	1.66	+1.29	0.60	.....	7	15	4	12	nw.	W. C. Gould
Melville	Foster	1,590	18	- 5.6[a]	−12.0	25[a]	21	−40[a]	12	39[a]	0.90	+0.55	0.60	9.0	3	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	2.17	.....	0.48	18.4	6	14	7	8	n.	Hj. Edman
Minot	Ward	1,557	20	-10.0	−15.8	32	23	−47	13	46	2.40	+2.03	1.00	24.0	6	15	8	8	nw.	W. I. Faris
Minto	Walsh	820	23	- 6.8	−8.6	24	21	−42	13	36	1.32	+0.84	0.70	.....	5	20	3	8	n.	C. M. Evans
Mott	Hettinger	2,424	9	- 5.7	.....	40	23	−47	12	40	1.38	.....	0.36	13.0	8	13	9	9	w.	O. H. Opland
Napoleon	Logan	1,955	24	- 5.6	−11.9	40	23	−46	12	41	0.80	+0.29	0.50	10.0	5	14	2	15	nw.	C. J. Hoof
New England	Hettinger	2,400	22	- 6.4	−20.5	45	24	−44	12	61	1.00	+0.56	0.20	10.0	5	19	9	3	nw.	J. M. Connolly
New Salem	Morton	2,163	11	- 4.6	−13.4	37	23	−43	13	55	1.45	+0.81	0.40	14.5	9	10	7	14	nw.	J. Christiansen
Orange †‡	Adams	2,586	7	- 3.7	.....	40	† 9	−44	13	45	0.20	.....	0.20	2.0	1	15	12	4	nw.	J. E. Goforth
Oriska	Barnes	1,270	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	12	- 7.4	−8.9	27[a]	24	−38	12	38[a]	0.92	+0.51	0.36	9.2	6	20	1	10	n.	F. A. McCray
Pembina	Pembina	789	42	- 8.5	−5.8	30	27	−44	13	40	3.00	+2.41	1.20	30.0	5	9	13	9	nw.	C. W. Shumaker
Plaza	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.35	6.0	3	16	6	9	nw.	J. A. Johnson
Power	Richland	1,020	24	- 1.6	−6.5	36[c]	19	−40	13	40	2.00	+1.45	0.60	20.0	8	.....	.....	.....	nw.	J. H. Radcliffe
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	1.34	.....	0.30	13.4	10	8	8	15	nw.	C. Frank
Ranger	Slope	2,408	4	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.31	10.5	7	14	6	11	nw.	C. M. Hubbard
Steele	Kidder	1,857	19	- 4.8	−13.7	35	21	−43	11	42	1.65	+1.30	0.56	21.0	9	8	19	4	.....	H. S. Wood
Towner	McHenry	1,482	14	- 9.4	−13.6	24	21	−49	13	38	2.00	+1.58	0.50	2.00	6	9	9	13	nw.	B. Bagley
Turtle Lake	McLean	1,899	4	- 6.0	.....	35	24	−47	13	51	1.10	.....	0.20	11.0	7	12	4	15	nw.	E. J. Jones
University	Grand Forks	830	24	- 5.8	−9.8	29	21	−40	13	43	1.66	+1.14	0.90	17.5	10	16	11	4	n.	U. S. Weather Bureau
Walpeton	Richland	962	22	- 0.9	−8.9	33	21	−42	13	40	1.21	+0.78	0.41	.....	8	14	0	17	nw.	F. E. Smith
Walhalla	Pembina	966	9	- 6.6	.....	34	21	−39	12	46	2.20	.....	0.80	22.0	5	16	7	8	n.	I. DeL. Lee
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	10	-14.5	.....	18	21	−53	12	41	1.30	.....	0.60	13.0	3	9	2	20	nw.	W. A. Meddaugh
Williston	Williams	1,875	37	- 8.2	−14.7	33	23	−42	12	35	1.17	+0.59	0.34	11.2	10	5	10	16	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	24	-12.2	−13.1	19	20	−54	13	34	2.30	+1.95	0.50	23.0	9	11	11	9	nw.	M. A. Ostby
Zap	Mercer	1,800	3	- 6.4	.....	33	23	−50	13	43	0.54	.....	0.22	9.1	8	12	10	9	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	35	- 2.3	−5.0	31	9	−37	13	39	1.49	+0.78	0.52	14.5	10	13	5	13	nw.	U. S. Weather Bureau
Averages				- 6.4	−11.6	49	21	−56	12	64	1.38	+0.89	1.50	15.1	6	13	8	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

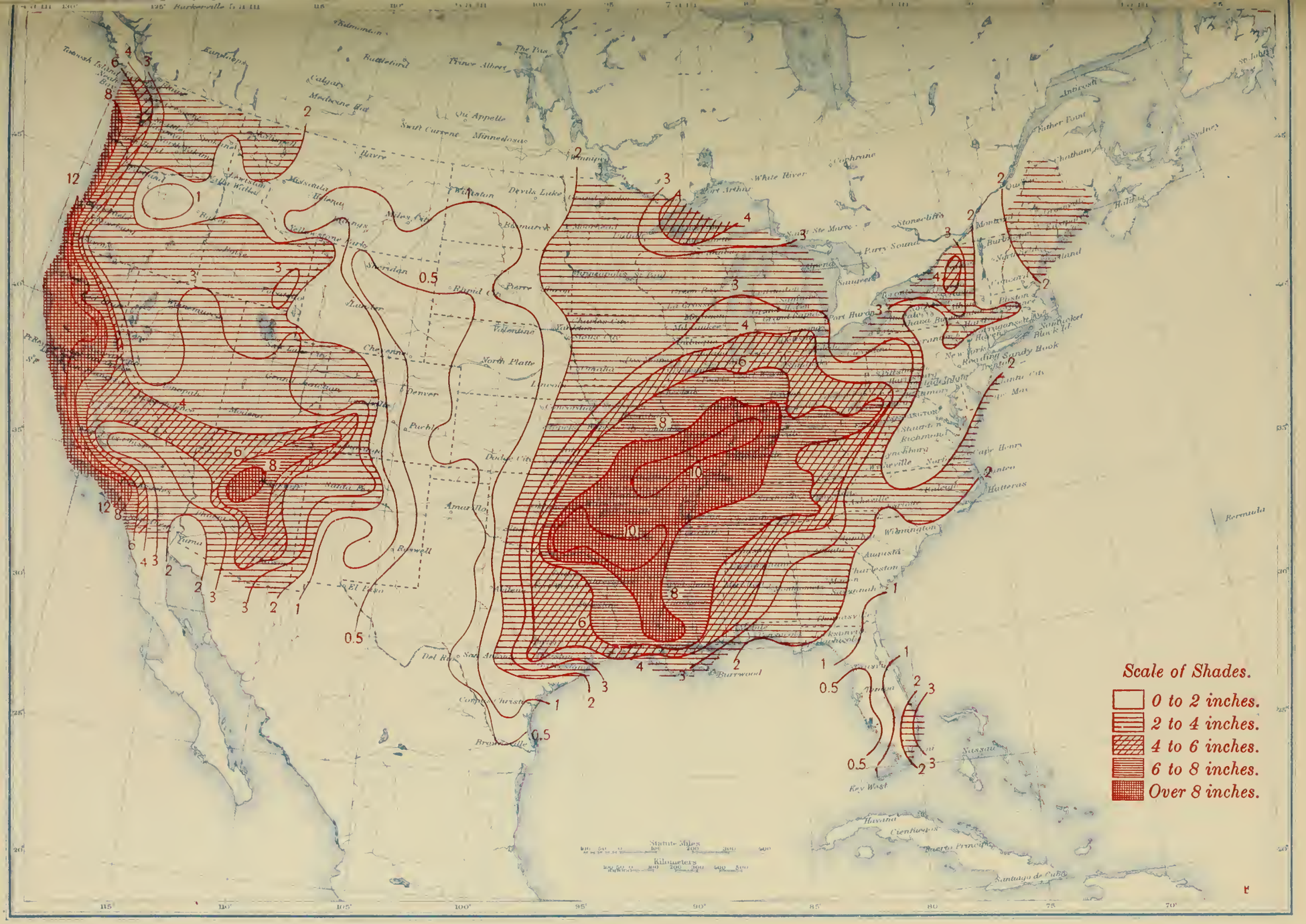
Daily Precipitation for January, 1916.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red						T.				T.		.02													T.	.03	.05	T.	.70	T.	T.	0.80
Aplin	Knife				.10					.15	.05	.20			T.			.05	T.	.05						T.				*	.60		1.20
Ashley	Missouri				.10	.10						.30															.30	.20	.30	.30			1.60
Beach	Lit. Missouri				.10					.20	.03				T.					T.						.45		.65				1.43
Berthold Agency	Missouri				T.					.11										.14					T.		.12	T.	.25				0.62
Bismarck ***	Missouri		T.		.07					.01	T.	.12						T.	T.	T.					T.	.06	.13	.11	.28	.03	T.		0.81
Bottineau ‖ ‖	Mouse			T.	.01						.22	.07	.03			T.		.04	T.		.16		.04			.04	.02	.02	.23	.15	.05		1.08
Bowbells ‖ ‖	Mouse										.50																*	1.40		1.17			3.07
Bowman	Grand																																
Buford	Missouri	T.	.10							.05	T.			T.												.17	.25	.57	.37				1.51
Cando	Sheyenne																										.09		.41				0.50
Carson	Heart				.10							.10														.05	.15		.10				0.50
Colgate	Sheyenne					.20				.05	.05	.10	.10			.10										.10	.30	.40	.10	.60			2.10
Cooperstown	Sheyenne										T.	T.								T.							.40	*	1.00				1.40
Crosby	Mouse				.10						.20						.10									T.	T.		.10	.81			1.31
Devils Lake ***	Sheyenne									.06	.02	.09								.10	.03					.01	.10	.08	.09	.13	T.		0.71
Dickinson	Heart		T.		.10					.10		.10				.05				T.						T.	.20	.20	.05			T.	0.80
Donnybrook	Mouse		T.		T.					T.											.05	.03				T.	.07	.20	T.	.20			0.55
Dunseith	Mouse									.05		1.50									.02					.01		.05	.07				1.70
Eckman	Monse			T.					.05	.03	.10										.50					.10	.20	.30					1.28
Edgeley	James				T.							.30								T.							T.	*	.51		.10		0.91
Energy	Missouri				T.					.06		.12					.02	T.	T.	.18						.10	.10	.25					0.83
Epping	Missouri									.21	.10							.12								.04	.22	.18	.06	.30			1.23
Fessenden ‖ ‖	James					T.	T.				.11	.06	T.								.05						.32	.11	.12	.30			1.07
Forman	Sheyenne				.10	.10						.20								.02							.20	.20	.60	.20			1.62
Fullerton	James				T.					T.		.22								.06					T.	T.	.30	.21	.45	.30	T.	T.	1.54
Garrison	Missouri	T.	.01	T.						.02									T.	.31						.10	.10	.05	.10	.15			0.84
Goodall	Missouri									.40						.30				.60						.30	.35	.20	.65	.40			3.30
Grafton ‖ ‖	Red											.69	.06			.20		.05			.09						.28	.21	.18				1.76
Grand Rapids	James				.20							.30								.10							.20	.20	.20		T.		1.20
Granville	Monse											T.							*	.18							T.	*	.21				0.39
Hannah	Pembina			T.						1.10		.30						.70									.20	.20	T.	.40			2.40
Hansboro	Red									.60	.40	.20									.40						.40	.50	.20	.80			3.50
Hettinger	Grand		T.		.21							.01					T.	T.		.01	T.						.10	.06	.21				0.59
Hillsboro	Red									T.		.10						.05									.20	.60	.10	.80		.10	1.95
Howard	Missouri	T.	T.	T.					.30														T.			*	.60		.40				1.30
Jamestown ‖ ‖	James				.05						.08	.20									.10						*	.60	*	.30			1.33
Lakota	Sheyenne			T.						.02	.04	.02						.02		.02							.04	.04	.04	.20			0.44
Lamoine	Missouri				T.	.10				T.		.10															.50		*	.60			1.30
Langdon ‖ ‖	Pembina						.10			.10	.30	.10								T.	.30	T.	.10					.20	.10	.40			1.70
Larimore ‖ ‖	Red										.20	.10	.10					.02			.10					.20		.30		.60			1.62
Lisbon ‖ ‖	Sheyenne							*	T.																		.20	.30		1.00	.60			2.10
McHenry	James									.02	.07						.07	.10										1.00					1.26
McKinney	Mouse											.20																	.60				0.80
McLeod	Sheyenne				.10							.05															.45	.50	.40	.50			2.20
Maddock	Sheyenne																																
Mandan ‖ ‖	Missouri					.04					T.	.01	.01					T.									.04	.03	T.	.15			0.28
Manfred	Sheyenne									.10	.20							.02		T.	.05				T.	.20	.10	.15	.25			1.07
Manning	Knife						.80																					.60					1.40
Marmarth	Lit. Missouri				*	.16						.01				.01		.04			.02					T.	.04	.10					0.38
Marstonmoor	James																																
Mayville	Red					.10						.10						.05									.60		.20	.60	.01		1.66
Melville	James																										.60	.10	.20				0.90
Milnor	Red			T.	.25							.35								T.							.48	.45	.30	.34			2.17
Minot ‖ ‖	Mouse										1.00									T.	.60					.20	.20	.30	.10				2.40
Minto	Red									.30		.01						.01										.50		.70			1.32
Mott	Cannon Ball		T.		.27				T.		.20	T.				T.		.09		.01						.07	.32	.06	.36				1.38
Napoleon ‖ ‖	Missouri					.10						*	.10															.10		.50			0.80
New England	Cannon Ball				.20										.20						.20						.20			.20			1.00
New Salem	Heart		T.	T.	.20					.05	T.	.10						.02	T.	T.				T.	.03	.30	.40	.05		.30		T.	1.45
Orange	Cannon Ball																										.20						0.20
Oriska	Sheyenne																																
Park River	Red		T.							.01		.16								T.	.06						.06	.36	T.	.27	T.		0.92
Pembina ‖ ‖	Red										.40										.80						.40		1.20	.20			3.60
Plaza	Missouri								.15												.35						.14						0.64
Power	Sheyenne										.20	.10	.10					.10			.10					.30		.50		.60			2.00
Powers Lake	Missouri				T.	.10				.04					T.	.20	.10	T.					T.		.15		.10	.30	.20	.05	.10	T.	1.34
Ranger	Lit. Missouri		T.		.31					.12	T.	.23			T.			T.					.08			.04	.13		.21				1.12
Steele	Missouri				.22					.26										.08						.06	.56	.25		.06	.10	.06	1.65
Towner	Monse									.40		.20														T.	.40	.30	.20	.50			2.00
Turtle Lake	Missouri									.10	.20														T.	*	*	*	*	.80			1.10
University	Red				T.	.02				.03		.09						.03			.05				T.		.19	.26	.33	.60	.06		1.66
Wahpeton ‖ ‖	Red		.13			.15							.16					T.	.06		.06					T.	.04	.20		.41	T.		1.21
Walhalla	Pembina									.20		.20									.30						T.	T.	.60	.80			2.20
Washburn	Missouri		.13			.15							.16					T.	.03		.06					T.	.04	.20		.41	T.		1.21
Westhope	Mouse								.60	T.															.20		T.	.50					1.30
Williston ***	Missouri	.04	.03							.25		T.			T.		.04	T.	T.	.02			T.		.02	.16	.16	.11	.34				1.17
Willow City	Monse									.50	.20	.20									.30					.10	.30	.30	.10	.30			2.30
Zap	Knife				T.					.03		.01								.02						.02	.03	.06	.15	.22			0.54
Moorhead, Minn ***	Red					.06				.05		.10	.02					.06		T.					T.	.04	.41	.23	.27	.25			1.49

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	10	14	13	13	- 5	10	13	22	13	12	12	-19	-12	- 2	- 4	6	16	23	30	35	12	22	23	16	- 6	- 2	0	9	5	- 5	- 1	8.8
	Minimum...	- 7	- 7	-10	- 5	-18	-22	-18	-18	- 4	-12	-19	-28	-39	-28	-22	-21	-12	-11	-11	12	- 8	11	0	- 7	- 8	- 8	- 7	-24	-20	-41	-25	-14.8
Aplin	Maximum...	17	14	10	5	2	18	28	25	25	- 2	-14	-20	-17	-12	- 5	0	10	12	18	22	27	25	25	——	——	——	——	——	——	——	——	[b]-11.0
	Minimum...	-11	-14	-12	- 1	-28	-17	- 5	-10	- 2	-19	-24	-48	-51	-24	-13	- 9	- 4	2	10	17	18	- 7	——	——	——	——	——	——	——	——	——	——	
Ashley	Maximum...	20	19	18	26	6	23	25	23	27	12	-10	-15	-15	- 6	- 3	- 3	11	11	20	25	30	20	36	30	- 5	- 7	-10	- 6	-15	- 7	- 3	8.9
	Minimum...	-12	- 5	- 6	3	-25	-18	-15	5	12	-28	-20	-39	-41	-31	-20	-15	-10	-16	2	11	1	- 5	- 3	-12	-14	-16	-19	-27	-22	-32	-24	-14.2
Beach	Maximum...	11	11	16	12	12	11	12	25	25	- 9	-14	0	-10	-12	-10	10	14	12	17	27	28	10	35	35	-10	-13	-10	-10	-14	-10	- 5	6.3
	Minimum...	- 9	-11	- 5	- 1	-31	- 5	5	11	- 9	-21	-38	-34	-22	-20	-20	-18	-16	-16	-12	0	- 1	-15	5	-18	-18	-21	-30	-34	-30	-38	-22	-15.9
Berthold Agency	Maximum...	15	16	14	11	5	19	30	29	26	11	-10	-20	-11	- 9	- 4	4	13	14	15	25	33	28	29	28	- 9	-10	- 8	- 8	- 7	- 7	0	8.4
	Minimum...	-13	4	-14	1	-26	-27	- 8	-10	11	-18	-25	-50	-52	-35	-26	-13	- 5	-18	-18	6	- 8	-14	- 8	-17	-18	-20	-19	-39	-27	-42	-24	-18.1
Bismarck	Maximum...	14	14	18	8	0	15	19	25	21	- 7	-12	-24	-20	-11	- 1	5	13	17	24	27	36	2	28	24	- 6	-10	-11	- 7	- 8	- 8	- 2	5.9
	Minimum...	-11	- 4	- 7	0	-23	-19	- 9	- 5	- 7	-17	-35	-40	-45	-32	-16	-13	- 9	-12	-12	8	- 1	- 5	- 2	-16	-14	-16	-24	-30	-25	-36	-13	-15.8
Bottineau §§	Maximum...	4	7	9	- 3	-17	- 1	7	12	1	- 8	-14	-23	-22	-25	-11	6	1	7	19	22	23	- 8	18	-12	- 9	-15	-13	0	- 8	-15	- 7	- 2.4
	Minimum...	-18	-15	-12	-14	-30	-36	-21	-18	-17	-15	-23	-43	-47	-46	-38	-27	-18	-22	-11	- 8	- 4	-25	-26	-13	-18	-20	-21	-20	-16	-33	-35	-22.9
Bowbells §§	Maximum...	10	8	4	0	4	0	14	23	4	-11	-23	-26	-28	-19	-12	10	10	12	8	14	26	10	12	-17	-16	-15	-14	-10	-10	-13	- 5	1.6
	Minimum...	- 6	- 8	-16	-10	-32	-24	-22	-12	-11	-24	-26	-48	-45	-40	-33	-19	-10	-17	-10	-12	-10	-32	-26	-21	-25	-27	-26	-38	-23	-28	-27	-22.8
Carson	Maximum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colgate	Maximum...	20	12	12	11	4	4	10	11	18	5	0	-12	-20	-12	-12	- 2	12	15	14	24	29	19	17	24	- 5	- 9	- 2	- 4	6	- 6	- 3	5.8
	Miuimum...	-11	-10	-10	- 3	-22	-21	-20	- 7	3	-20	-22	-37	-40	-33	-21	-24	- 6	-13	-12	4	3	-12	-12	-10	-11	-13	-13	-27	-16	-37	-25	-16.1
Crosby	Maximum...	10	10	——	10	0	3	12	15	14	14	-14	-24	-22	-14	- 4	- 2	10	15	——	14	20	0	24	22	-14	-15	-10	-11	-17	-14	- 9	[b] 0.8
	Minimum...	-10	5	——	- 7	-32	-18	-19	-15	- 8	-26	-33	-43	-42	-30	-26	-10	- 4	-14	——	-11	-11	-24	-19	-21	-23	-22	-18	-32	-10	-30	-20	[b]-19.8
Devils Lake	Maximum...	- 1	11	11	6	- 7	0	13	16	15	-10	-12	-29	-19	-16	-14	0	7	10	20	20	27	- 1	21	24	-10	-12	-10	1	6	-11	- 5	1.6
	Minimum...	-15	-13	- 3	- 7	-26	-18	-19	-10	-11	-20	-29	-44	-42	-31	-28	-22	-11	-15	- 3	10	- 1	-21	-14	-14	-16	-21	-20	-26	-23	-27	-19	-18.0
Dickinson	Maximum...	19	14	15	8	2	22	34	31	29	5	-16	-23	-14	-13	- 9	0	13	12	16	27	29	22	39	35	-11	-12	-13	-17	-14	-12	- 2	7.0
	Minimum...	-12	0	- 7	2	-30	-11	- 4	- 4	5	-21	-23	-44	-44	-28	-18	-15	- 4	-14	6	0	4	8	0	-15	-17	-20	-21	-31	-28	-33	-21	-14.2
Donnybrook	Maximum...	7	9	9	1	- 2	5	15	24	18	- 6	-13	-25	-15	-16	- 7	0	8	12	11	16	21	10	12	31	-15	-16	-12	-10	-11	-13	- 4	1.4
	Minimum...	-13	- 5	-13	- 7	-30	-22	-22	-15	-10	-20	-31	-44	-42	-29	-24	-15	- 6	-13	- 5	2	9	-25	-20	-22	-23	-24	-21	-36	-20	-25	-19	-19.0
Dunseith	Maximum...	14	4	3	9	8	- 2	6	11	11	5	-12	-20	-21	-10	- 5	0	0	10	10	19	10	12	18	17	-10	- 5	- 5	2	-11	- 5	-16	1.5
	Minimum...	-13	-12	-10	- 1	-32	-34	-16	-18	-10	-17	-21	-43	-43	-38	-26	-22	-16	-13	- 6	- 5	-26	-24	-20	-19	-24	-22	-21	-15	-31	-27	-31	-21.2
Edgeley	Maximum...	19	15	14	9	12	21	15	18	25	11	-10	-12	-15	- 5	- 4	- 2	11	19	23	24	34	26	25	30	- 1	- 7	- 7	- 6	- 4	- 7	- 3	8.6
	Minimum...	- 8	- 5	- 8	- 1	6	-21	-17	1	11	-14	-20	-34	-37	-31	-21	-15	- 4	-11	-11	12	8	- 4	- 6	-10	-12	-12	-17	-25	-15	-35	-22	-12.2
Fessenden §§	Maximum...	5	10	10	3	0	14	21	24	26	7	-12	-21	-16	-12	- 8	6	7	15	20	23	33	4	28	- 9	- 7	-14	- 6	- 6	-12	- 9	- 4	3.3
	Minimum...	-11	-10	- 9	- 6	-26	-26	-15	-10	- 8	-14	-21	-44	-43	-41	-30	-18	-16	-15	-11	-11	4	-18	-18	-11	-17	-21	-20	-36	-19	-34	-30	-19.5
Forman	Maximum...	15	16	20	20	12	13	23	20	30	18	- 4	- 8	-18	- 3	- 3	- 1	13	17	25	28	36	23	28	25	- 2	- 2	- 7	- 7	- 1	- 7	- 2	10.3
	Minimum...	0	- 6	- 6	5	-18	-20	-15	2	16	- 9	-16	-32	-40	-26	-16	-17	-11	- 5	-10	17	8	- 3	- 4	- 3	-10	- 7	-11	-25	-16	-32	-28	-10.9
Fullerton	Maximum...	18	11	16	10	7	10	16	20	27	12	- 6	-15	-17	- 8	- 3	- 1	12	16	25	24	32	23	25	32	- 3	- 6	- 8	- 7	- 4	- 9	- 3	7.9
	Minimum...	- 3	- 5	- 8	3	-21	-21	-20	- 3	11	-10	-20	-34	-39	-30	-18	-14	- 5	-14	-12	9	10	- 3	- 5	- 8	-11	-12	-14	-24	-15	-34	-19	-12.5
Garrison	Maximum...	10	11	12	7	0	18	25	24	21	- 3	-15	-29	-22	-13	-11	0	8	11	14	20	28	21	23	22	- 8	-12	-11	- 9	- 7	-12	- 5	3.8
	Minimum...	-14	- 8	-11	- 1	-28	-24	-10	-12	- 4	-18	-29	-43	-47	-36	-24	-15	- 8	-14	-13	5	- 7	-15	-12	-15	-18	-19	-23	-38	-22	-37	-25	-28.9
Grafton §§	Maximum...	4	11	10	5	- 6	- 6	10	11	- 5	- 6	- 9	-10	-35	-10	- 9	9	11	10	23	25	24	- 1	18	5	- 6	- 2	- 1	11	10	——	[a] 2.4
	Minimum...	-25	-26	-10	- 6	-23	-33	-25	-19	-12	-13	-20	-37	-45	-39	-30	-28	-23	-18	-12	- 9	- 1	-18	-20	- 6	-11	-18	-18	-21	-15	-24	-25	-20.3
Granville	Maximum...	2	10	9	0	- 3	0	10	- 8	22	——	-12	-30	-15	-15	-15	0	10	10	20	22	25	2	24	15	17	-15	-13	-10	-15	-10	——	[b] 1.3
	Miuimum...	-17	-12	- 9	-18	-27	-30	-20	-17	- 8	——	-37	42	-43	-42	-38	-16	-15	-10	10	2	0	-22	-10	-15	-18	-18	-15	-10	-15	-25	-25	[a]-18.7
Hannah	Maximum...	9	5	6	4	-10	-11	5	8	5	-10	-10	-13	-30	-24	-19	- 7	1	5	15	16	2	5	0	-12	- 9	-12	-10	5	-10	- 9	- 3.3
	Minimum...	-25	-27	-20	-10	-32	-35	-22	-21	-18	-23	-23	-54	-52	-42	-37	-35	-16	-25	-11	4	- 6	-22	-24	-17	-25	-20	-21	-25	-18	-32	-26	-24.5
Hansboro	Maximum...	0	5	7	5	- 4	-11	- 5	0	0	- 4	-12	-22	-22	- 8	- 9	0	8	10	11	20	25	18	12	12	1	-18	-11	- 5	5	-10	- 5	0.2
	Minimum...	-20	-15	- 8	-10	-31	-33	-25	-15	-10	-18	-22	-43	-30	-36	-28	-21	-10	-12	- 9	4	- 3	-24	-20	-17	-19	-24	-20	-25	-15	-33	-30	-20.1
Hettinger	Maximum...	18	18	10	15	0	13	29	28	28	0	-15	-21	-22	- 9	- 8	- 2	14	15	24	30	30	28	43	49	- 8	-10	-16	-16	-15	-12	- 2	7.6
	Minimum...	- 4	0	-21	0	-31	- 9	- 3	0	0	-19	-30	-44	-47	-36	-18	-16	- 7	-16	-14	2	0	-10	- 2	-15	-15	-18	-21	-29	-29	-29	-20	-16.2
Howard	Maximum...	10	10	7	10	-16	4	14	16	0	-19	-29	-34	-21	-18	- 9	- 7	11	17	9	17	20	-10	- 8	- 7	-23	-17	-24	-25	-23	-22	-34	-26	-35	-27	-22.7
	Minimum...	-12	- 5	-14	-21	-34	-18	- 9	-19	-24	-34	-34	-46	-44	-36	-30	-17	- 7	-20	-10	- 8	- 7	-23	-17	-24	-25	-23	-22	-34	-26	-35	-27	- 2	5.3
Jamestown §§	Maximum...	14	12	15	8	- 3	12	17	21	17	- 3	-11	-26	-13	- 7	- 6	8	11	15	25	25	32	- 1	22	10	- 5	- 9	- 8	- 2	- 4	- 6	- 2	5.3
	Minimum...	-12	-11	- 9	- 5	-20	-23	-17	-16	- 3	-10	-20	-38	-40	-39	-31	-18	-17	-14	-10	-10	- 7	- 7	- 9	- 8	-13	-14	-18	-29	-26	-31	-32	-17.9
Lakota	Maximum...	4	4	8	3	- 2	- 2	10	12	11	- 2	-14	-18	-21	-17	-18	-10	6	7	20	18	20	15	20	19	0	-11	-11	- 8	3	10	- 9	1.4
	Minimum...	-16	-17	-15	- 2	-27	-28	-28	-20	- 2	-18	-18	-44	-44	-35	-29	-28	-11	-18	-10	-10	0	-20	-15	-15	-15	-22	-15	-25	-18	-39	-28	-20.2
Lamoine	Maximum...	6	11	11	8	10	14	16	22	20	- 1	-16	-18	-20	-13	-10	- 3	5	12	17	26	32	16	26	22	- 9	-12	-14	- 9	- 7	-12	- 6	3.7
	Minimum...	-12	- 8	- 8	-10	-28	-24	-14	-12	- 2	-16	-22	-45	-45	-33	-25	-21	- 9	- 8	-15	-10	4	- 3	-10	- 7	-16	-18	-17	-19	-21	-20	-35	-21	-33	-23	-18.1
Langdon	Maximum...	5	5	5	3	-11	- 5	10	10	- 4	- 8	-15	-24	-30	-18	-12	4	6	9	20	18	18	3	19	4	- 3	-10	-12	7	9	-10	- 4	0.4
	Minimum...	-18	-19	-13	-11	-29	-35	-21	-18	-18	-18	-24	-50	-48	-40	-36	-32	-22	-17	- 9	5	3	-22	-23	-15	-16	-25	-20	-20	-19	-30	-30	-22.3
Larimore §§	Maximum...	5	9	9	25	17	- 3	12	16	2	- 7	- 9	-21	-25	-10	- 2	- 5	12	11	23	27	24	18	25	16	16	- 6	- 5	9	0	- 4	- 4	3.6
	Minimum...	-14	-11	- 5	2	17	-25	-22	-12	- 4	-16	-21	-39	-39	-35	-29	-10	- 5	-14	-10	4	18	-12	-16	-15	-19	-21	-24	-18	-23	-21	-12.8
Lisbon §§	Maximum...	18	16	14	18	17	12	14	15	14	12	8	-10	-10	0	11	10	16	14	12	15	18	16	14	12	12	10	6	8	2	- 6	8	10.2
	Minimum...	4	8	0	- 2	- 2	6	2	- 8	-12	-18	-22	-32	-37	-38	-32	-24	-15	-10	-12	-18	- 8	-12	- 8	- 8	-10	-12	- 8	- 8	-25	-22	-33	-30	-14.1
McHenry	Maximum...	6	8	6	16	0	-13	13	15	0	- 8	-11	-23	-24	-10	-12	- 3	7	13	22	22	26	16	16	15	- 7	-10	- 7	- 2	5	- 8	- 5	2.0
	Minimum...	-10	- 8	-15	- 6	-25	-24	-15	-10	-10	-18	-23	-45	-44	-33	-20	-23	- 7	-15	- 7	14	4	-19	-16	-13	-14	-18	-26	-31	-18	-31	-30	-17.7
McKinney	Maximum...	10	14	5	3	5	10	12	9	15	12	-10	-33	-17	-17	- 9	5	14	10	30	22	15	——	——	——	10	-15	-10	- 8	- 4	- 2	-10	[a] 2.4
	Minimum...	-23	-12	-15	-10	-30	-24	-25	-26	- 5	-15	-30	-46	-47	-43	-26	-17	-14	-14	1	- 5	-24	——	——	——	-22	-24	-18	-38	-18	-22	-24	[a]-22.0
Manfred	Maximum...	10	8	10	10	- 2	10	21	25	20	-10	——	-30	-15	-10	- 8	2	7	13	20	23	29	18	26	25	- 5	-12	- 5	- 5	- 5	-10	- 5	[a] 5.2
	Minimum...	-12	- 7	- 7	- 2	-25	-21	-12	- 8	-21	-20	——	-41	-41	-34	-23	-27	- 7	-15	-11	10	2	-17	-14	-14	-15	-20	-18	-35	-20	-30	-22	[a]-17.6
Marmarth	Maximum...	16	15	24	14	5	22	25	33	27	- 7	-16	-18	-12	-14	-10	- 1	14	20	18	30	28	27	42	29	-10	-10	-17	-19	-10	-15	- 2	7.4
	Minimum...	-16	- 9	- 4	- 3	-32	-10	- 3	- 5	- 7	-19	-36	-45	-38	-28	-19	-19	- 8	-15	-10	4	- 3	-10	- 7	-16	-18	-17	-26	-32	-26	-29	-21	-16.2
Minot §§	Maximum...	9	10	5	5	2	7	25	24	3	-10	-12	-20	-13	-13	-10	2	7	14	15	22	26	- 5	32	-10	-11	-12	-11	0	- 6	- 8	- 2	2.1
	Minimum...	-17	-12	-10	-10	-27	-29	-18	-14	-12	-15	-20	-41	-47	-45	-39	-21	-14	-13	- 4	-13	- 5	-20	-22	-14	-21	-20	-24	-37	-37	-38	-22	-22.0
Mott	Maximum...	23	16	19	23	1	18	25	26	5	- 3	-14	-21	-23	-17	-10	0	12	18	23	26	31	35	40	11	- 2	-12	-15	-11	-16	-14	- 5	5.9
	Minimum...	- 7	- 4	-12	1	-31	-19	- 6	0	-31	-20	-28	-47	-46	-33	-19	-16	- 8	-17	- 6	- 8	- 1	7	0	- 4	-16	-21	-27	-32	-31	-32	-22	-17.3
Napoleon §§	Maximum...	15	12	18	7	- 5	20	25	27	25	15	- 5	-25	-13	-10	- 5	- 7	10	15	20	25	32	5	40	5	- 6	-10	-12	- 8	-14	-10	- 3	5.9
	Minimum...	-12	-11	- 9	- 6	-26	-21	-13	- 7	5	-16	-25	-46	-45	-35	-21	-20	-12	-17	-12	5	5	- 9	- 8	0	-17	-16	-22	-36	-23	-35	-26	-17.1
New England	Maximum...	15	14	23	20	12	18	24	21	10	10	-22	-30	-21	-14	-12	5	14	13	16	20	31	20	43	45	-10	-10	-16	-16	-16	-20	- 5	5.9
	Minimum...	-14	-14	- 9	-13	-31	-12	- 8	-10	-22	-22	-30	-44	-43	-28	-20	-12	- 7	-11	- 7	- 5	- 4	- 6	- 1	-16	-16	-20	-25	-31	-31	-44	-26	-18.8
New Salem	Maximum...	22	17	14	10	12	19	26	25	26	1	0	-15	-19	-10	- 5	0	12	16	20	26	30	32	37	35	-10	-10	-11	-11	-11	- 9	- 3	8.6
	Minimum...	-10	- 4	- 9	-10	-29	-19	-11	- 5	0	-21	-25	-42	-43	-34	-21	-22	- 7	-14	-18	4	0	2	- 9	-20	-20	-21	-22	-32	-27	-34	-25	-17.7
Orange	Maximum...	25	16	21	10	5	21	21	25	40	2	-12	-20	-22	-10	-12	- 1	15	17	25	34	34	15	40	31	- 3	-12	-12	-13	-10	-10	- 2	8.3
	Minimum...	-12	- 3	- 9	- 2	-27	-13	- 6	- 1	- 2	-19	-30	-43	-44	-33	-28	-15	-10	-15	- 5	3	- 5	- 5	- 1	-14	-15	-17	-22	-18	-28	-29	-20	-15.7
Oriska	Maximum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Park River	Maximum...	6	2	10	5	- 1	- 7	5	14	14	0	0	-20	-19	-12	-12	- 4	8	9	20	21	25	——	4	27	-12	-15	- 7	- 3	-10	- 9	- 4	[a] 1.8
	Minimum...	-14	- 9	- 4	- 1	-33	-30	-21	-13	- 2	-15	-20	-38	-38	-29	-26	-23	- 9	-14	- 6	4	2	-20	-20	-11	-16	-20	-15	-14	-13	-26	-20	-16.6
Pembina §§	Maximum...	- 2	- 4	- 8	- 6	- 2	-10	-12	- 8	- 2	- 8	-10	-16	-22	-12	-10	- 4	- 2	4	20	22	20	5	- 8	0	10	22	30	20	10	5	0	0.6
	Minimum...	-12	-18	-10	-22	-16	-12	-28	-22	-16	-12	-16	-42	-44	-35	-26	-32	-20	-18	-10	- 5	5	-18	-22	-18	-12	- 5	-10	- 8	- 5	-12	-24	-17.6
Power	Maximum...	20	22	——	18	16	22	20	——	——	——	10	-18	-10	-20	-10	10	18	28	34	36	30	25	26	20	18	14	-10	- 9	-11	- 8	——	[a]-14.8
	Minimum...	- 8	-12	-10	——	-16	-10	-12	0	——	——	-18	-28	-4-	-22	-20	-11	- 9	- 6	- 4	0	- 9	12	18	-11	-18	-10	-21	-24	-26	-25	——	[a]-11.5
Towner	Maximum...	- 4	7	4	6	- 3	- 5	11	19	17	- 4	-12	-13	-24	-20	-10	- 2	- 7	-12	- 5	20	24	14	15	20	3	-13	-12	- 6	- 5	-13	-13	0.9
	Minimum...	-19	-14	- 8	- 3	-27	-29	-16	15	- 4	-14	-22	-48	-49	-37	-29	-20	- 7	-26	-10	5	0	-22	-17	-15	-16	-20	-17	-28	-27	-30	-25	-19.6
Turtle Lake	Maximum...	9	10	11	10	15	11	20	23	22	0	-12	-22	-27	-14	- 8	0	10	13	20	26	28	26	28	35	-10	-12	-14	-10	-14	-14	- 5	5.0
	Minimum...	-13	- 6	-10	0	-27	-17	-10	-10	- 2	-17	-25	-44	-47	-34	-22	-16	- 6	-13	-19	9	3	-13	-11	16	-18	-18	-19	-37	-20	-34	-21	-16.9
University	Maximum...	1	5	13	14	2	- 8	11	9	9	- 1	-11	-21	-16	-10	- 9	- 4	10	9	22	27	29	6	16	20	6	3	0	15	16	- 6	- 4	4.4
	Minimum...	-18	- 4	- 8	1	-22	-26	-19	- 5	- 1	-19	-21	-39	-40	-35	-22	-26	-11	-16	-10	4	6	-15	4	- 6	-10	-10	-12	-24	-27	-36	-32	-16.1
Wahpeton §§	Maximum...	18	17	23	18	-	9	15	28	30	10	- 5	-23	-14	——	——	5	——	——	——	——	33	15	30	30	15	3	3	6	- 1	-10	- 3 [f]	10.4
	Minimum...	4	-10	-16	7	7	-24	-17	- 9	2	-11	-23	-28	-42	-26	——	-26	-10	-15	-10	3	7	- 5	-10	15	- 5	- 5	- 2	-28	-24	-35	-30	[a]-12.2
Washburn	Maximum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	Maximum...	- 2	4	9	3	2	-19	-13	1	3	- 8	-11	-16	-33	-32	-20	-10	6	7	10	15	18	16	- 6	10	-13	-16	-15	-13	-13	-10	-12	- 5.1
	Minimum...	-24	-23	-13	-12	-31	-31	-23	-23	-20	-15	-24	-53	-49	-45	-36	-30	-18	-11	- 9	-11	- 5	-25	-25	-15	-21	-23	-24	-34	-19	-28	-22	-23.9
Williston	Maximum...	12	13	6	4	- 6	11	21	21	4	-10	-16	-28	-22	-11	- 8	9	13	10	10	22	26	1	33	0	-14	-15	-12	-11	-14	- 9	- 2	1.2
	Minimum...	- 5	- 3	-12	-19	-28	-10	- 5	-10	-13	-20	-34	-42	-41	-29	-22	-12	- 9	-12	- 9	- 3	- 9	-18	0	-20	-21	-20	-29	-35	-25	-25	- 9	-17.7
Willow City	Maximum...	- 6	5	6	2	- 3	- 4	9	6	7	0	-11	-22	-25	-22	-10	- 2	3	9	15	19	16	- 2	6	9	10	-13	-12	- 4	- 3	- 8	- 6	1.0
	Minimum...	-24	-16	- 9	-11	-30	-35	-20


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

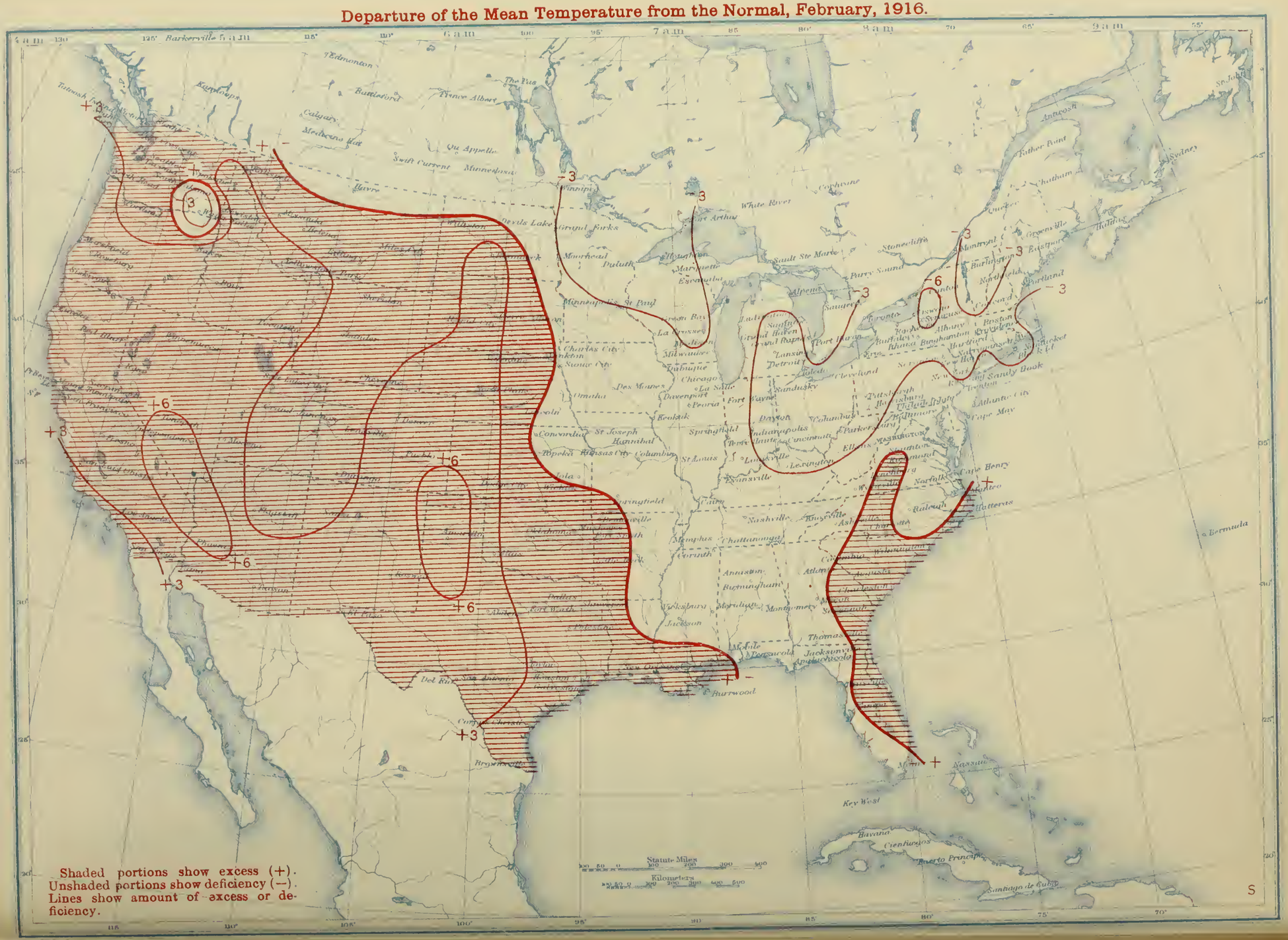
NORTH DAKOTA SECTION

FEBRUARY, 1916

BY
ORRIS W. ROBERTS
SECTION DIRECTOR

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 27, 1916.

Departure of the Mean Temperature from the Normal, February, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Section Director.

VOL. XXVI. BISMARCK, N. D., FEBRUARY, 1916. No. 2.

GENERAL SUMMARY.

Seasonable weather generally prevailed throughout the State during the month. The temperature averaged somewhat below the normal, there was a slight deficiency in precipitation, and the wind movement and sunshine were nearly the normal. Towards the close of the month much of the accumulated snow melted and caused all of the tributary streams to the Missouri River to overflow, and the ice in them to gorge badly. As a result of these conditions much damage was done to railway and wagon bridges, and some livestock was lost. Considerable concern was felt by residents adjacent to the Missouri River during the last days of the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.26 inches. The highest was 30.84 inches at Bismarck, Burleigh County, on the 13th; the lowest was 29.70 inches at Devils Lake, Ramsey County, on the 23d.

TEMPERATURE.

The mean temperature for the State was 6.4°, or 1.1° below the normal, and 11.0° lower than the mean for February, 1915. The highest mean reported was 15.4° at Marmarth, Billings County; the lowest was -3.8° at Pembina, Pembina County. The highest temperature reported was 55° at Aplin, Oliver County, on the 17th; the lowest was -39° at Grafton, Walsh County, on the 13th. The greatest monthly range of temperature was 87° at Eckman, Bottineau County; the least was 64° at Pembina, Pembina County. The greatest daily range of temperature was 66° at New England, Hettinger County, on the 15th. Usually the highest temperature occurred on the 15th, 16th or 23d, and the lowest on the 7th or 13th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 85.4 per cent, the average at 7 a. m. being 86.8 per cent, and at 7 p. m. 84.0 per cent.

PRECIPITATION.

The average precipitation for the State was 0.46 inch, or 0.04 inch below the normal, and 0.16 inch less than the average for February, 1915. The greatest monthly amount reported was 2.30 inches at Orange, Adams County; there was none whatever at Bowman, Bowman County, and at New England, Hettinger County. The greatest amount recorded in any twenty-four consecutive hours was 1.50 inches at Orange, Adams County, on the 4th. The greater portion of the precipitation occurred in the form of snow, the average fall being 4.8 inches. The average number of days with 0.01 inch or more of precipitation was 4. There were but two general stormy periods, from the 5th to the 12th, inclusive, and from the 24th to the close of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.0 miles. The greatest wind movement was 7,725 miles at Devils Lake, an average of 11.1 miles per hour; the least was 4,480 miles at Williston, an average of 6.4 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 44 miles per hour at Bismarck on the 25th

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 14, partly cloudy days 8, and cloudy days 7.

ERRATA, JANUARY, 1916.

Page 4: Greatest daily range at Devils Lake should be 39°; total snowfall at Williston should be 11.5 inches.

Page 6: Maximum temperature at Devils Lake on the 24th should be 25°, and mean maximum 1.7°.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	Pcdy days.	Cldy days.	
1892...	10.0	+2.5	62	-41	0.58	+0.08	4	14	7	8	nw.
1893...	- 0.3	-7.8	52	-54	0.59	+0.09	4	12	7	9	nw.
1894...	8.6	+0.5	55	-40	0.22	-0.28	2	14	9	5	nw.
1895...	5.9	-1.6	65	-50	0.36	-0.14	4	13	7	8	nw.
1896...	14.8	+7.3	64	-29	0.44	-0.06	3	12	9	8	nw.
1897...	6.1	-1.4	52	-40	1.15	+0.65	7	12	7	9	nw.
1898...	13.3	+5.8	65	-34	0.46	-0.04	3	13	8	7	nw.
1899...	0.4	-7.1	68	-48	0.20	-0.30	3	14	8	6	nw.
1900...	1.3	-6.2	46	-48	0.47	-0.03	4	12	9	7	nw.
1901...	7.1	-0.4	60	-31	0.31	-0.19	3	15	7	6	nw.
1902...	12.1	+4.6	51	-33	0.98	+0.48	6	10	6	12	nw.
1903...	3.1	-4.4	46	-49	0.38	-0.12	3	19	4	5	nw.
1904...	- 2.1	-9.6	52	-42	0.54	+0.04	5	13	6	10	nw.
1905...	8.2	+0.7	64	-46	0.30	-0.20	2	19	4	5	nw.
1906...	9.8	+2.3	57	-38	0.13	-0.37	2	13	8	7	nw.
1907...	10.7	+3.2	58	-49	0.27	-0.23	3	15	7	6	nw.
1908...	13.9	+6.4	62	-34	0.99	+0.49	5	12	7	10	nw.
1909...	9.6	+2.1	56	-34	0.34	-0.16	4	11	7	10	nw.
1910...	3.4	-4.1	56	-50	0.50	0.00	4	14	7	7	nw.
1911...	7.3	-0.2	55	-38	0.73	+0.23	3	15	8	5	nw.
1912...	11.8	+4.3	48	-33	0.15	-0.35	2	10	9	10	nw.
1913...	8.5	+1.0	64	-44	0.10	-0.40	2	12	9	7	nw.
1914...	1.0	-6.5	57	-47	0.34	-0.16	3	12	8	8	nw.
1915...	17.4	+9.9	50	-20	0.62	+0.12	3	9	5	14	nw.
1916...	6.4	-1.1	55	-39	0.46	-0.04	4	14	8	7	nw.

Climatological Data for February, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	20	3.6	−4.2	44	19	−31	13	52	0.15	−0.23	0.15	1.5	1	15	0	14	s.	E. T. Carley
Aplin	Oliver	1,900	9	.....	.....	55[a]	17	.....	.....	.....	0.30	.....	0.11	3.0	6	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	19	10.0	+3.5	43	19	−27	13	33	0.10	−0.41	0.10	1.0	1	16	3	10	nw.	R. C. Miles
Beach	Golden Valley	2,576	10	14.2	.....	48	20	−21	2	32	0.10	.....	0.04	.....	3	17	9	3	se.	D. J. Steiner
Berthold Agency†‡	McLean	2,082	22	10.4	+1.1	53	15	−34	7	44	0.05	−0.62	0.05	0.5	1	17	2	10	w.	C. L. Hall
Bismarck	Burleigh	1,674	42	11.8	+3.5	50	23	−25	7	34	0.39	−0.13	0.14	4.4	7	13	9	7	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	24	− 0.4	−2.5	47	16	−35	7	49	0.24	−0.17	0.05	.....	9	15	6	8	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	4	1.1	.....	41	16	−28	† 7	39	1.25	.....	1.20	.....	2	20	0	9	.....	G. H. Phelps
Bowman	Bowman	.....	2	14.8	.....	48	20	−23	4	29	0.00	.....	0.00	0	0	21	0	8	.....	L. S. Diehl
Buford	Williams	1,944	37	7.6	−3.1	47	16	−31	7	62	0.42	−0.07	0.13	1.2	5	15	7	7	w.	P. Elmore
Cando	Towner	1,488	15	2.2	−1.3	40	†15	−35	† 7	39	0.22	−0.04	0.12	.....	2	.....	.....	.....	w.	E. T. Judd
Carson	Morton	.....	4	.....	.....	.....	.....	−16	1	.....	0.25	.....	0.15	2.5	4	15	4	10	nw.	J. W. Evens
Colgate	Steele	1,177	2	5.8	.....	41	23	−35	13	35	0.40	.....	0.20	4.0	2	15	5	9	n.	H. P. Rice
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.30	3.0	1	22	3	4	nw.	S. Friswold
Crosby	Divide	1,954	9	6.6	.....	39	15	−25	11	39	0.45	.....	0.25	4.5	2	.....	.....	.....	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	12	3.2	−1.3	39	16	−29	7	31	0.32	−0.21	0.16	4.0	6	11	12	6	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	24	9.6	−2.3	52	20	−22	† 3	38	0.32	−0.17	0.15	3.2	4	5	18	6	sw.	L. R. Waldron
Donnybrook	Ward	1,760	17	3.2[e]	−4.8	36[f]	23	−28	8	38[f]	0.60	−0.05	0.30	6.0	5	9	15	5	nw.	Geo. Michel
Dunseith	Rolette	1,682	20	4.0	+0.3	45	†14	−33	7	42	0.62	+0.17	0.20	6.2	6	7	20	2	nw.	J. G. Lamont
Eckman	Bottineau	.....	11	1.6	.....	50	14	−37	9	47	0.80	.....	0.60	8.0	2	16	5	8	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	15	12.6	+1.8	51	15	−26	7	37	0.16	−0.18	0.10	1.6	3	11	8	10	nw.	O. A. Thompson
Energy†‡	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	0.13	.....	0.10	.....	3	11	14	4	nw.	N. W. Solenberger
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	0.68	.....	0.23	13.0	9	16	5	8	w.	M. E. Uggen
Fessenden	Wells	1,610	4	5.2	.....	43	23	−31	7	52	0.27	.....	0.11	2.5	3	14	11	4	nw.	G. T. Seymour
Forman	Sargent	1,249	24	10.0	+0.3	42	19	−30	7	32	0.10	−0.33	0.10	1.0	1	17	4	8	nw.	A. Maltby
Fullerton	Dickey	1,439	18	10.7	+1.4	47	23	−24	7	40	0.19	−0.54	0.06	1.9	6	15	10	4	nw.	F. O. Alin
Garrison	McLean	1,901	21	7.4	−1.1	38	15	−32	7	38	0.75	+0.11	0.40	7.9	6	11	11	7	nw.	G. L. Robinson
Goodall	McKenzie	2,200	2	6.9	.....	40	†15	−30	7	42	0.75	.....	0.40	6.0	2	16	0	13	w.	C. H. Layman
Grafton	Walsh	827	24	0.4	−5.5	44	17	−39	13	53	0.57	+0.03	0.19	6.5	6	14	13	2	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	4	10.0	.....	47	16	−34	13	43	T.	.....	T.	T.	0	19	3	7	nw.	G. H. Leick
Granville	McHenry	1,504	9	11.8[b]	.....	35	†22	−28	8	29[m]	0.58	.....	0.50	8.5	4	19	8	2	nw.	W. A. Christianson
Hannah	Cavalier	1,568	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Moffatt
Hansboro	Towner	1,597	8	2.0	.....	41	17	−34	13	39	1.30	.....	0.30	10.0	5	20	5	4	nw.	C. E. Blackorby
Hettinger	Adams	2,253	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogaard
Hillsboro	Traill	901	10	3.5	.....	41	16	−38	13	39	0.95	.....	0.30	9.5	6	16	8	5	nw.	F. E. Mayall
Howard	Williams	2,275	7	3.6	.....	37	15	−30	7	40	0.65	.....	0.25	6.5	3	16	3	10	nw.	C. P. Ansbaugh
Jamestown	Stutsman	1,390	24	7.1	−1.1	48	23	−28	13	51	0.45	+0.15	0.40	4.5	3	10	7	12	nw.	S. Calvelage
Lakota	Nelson	1,579	15	0.6	−3.4	37	15	−34	13	37	0.12	−0.53	0.04	3.0	4	15	11	3	w.	C. R. Pettes
Lamoine	Kidder	1,936	8	4.8[a]	.....	45[a]	20	−32[a]	7	31[a]	0.50	.....	0.20	5.0	3	18	3	8	nw.	E. V. Virgin
Langdon	Cavalier	1,615	20	2.0	.....	39	16	−36	7	50	0.85	.....	0.25	6.0	7	18	7	4	sw.	R. T. Burke
Larimore	Grand Forks	1,134	21	6.6	+0.9	45	24	−33	13	55	0.67	+0.34	0.20	9.5	5	18	6	5	nw.	G. G. Graham
Lisbon	Ransom	1,091	12	8.2	−1.1	48	22	−30	13	50	0.32	−0.27	0.20	3.2	3	18	6	5	nw.	W. S. Adams
McHenry	Foster	1,509	6	4.0	.....	39	†16	−32	7	32	0.75	.....	0.20	7.8	5	24	4	1	nw.	P. E. Trudeau
McKinney	Renville	1,640	22	7.6	+2.9	46	16	−32	12	48	0.40	+0.09	0.30	4.0	2	2	24	3	nw.	N. P. Swenson
McLeod	Ransom	1,075	4	7.0	.....	44	19	−31	13	35	0.40	.....	0.20	4.0	2	12	8	9	nw.	E. W. Griggs
Maddock	Benson	.....	1	4.8	.....	40	15	−33	13	41	0.17	.....	0.17	.....	1	18	11	0	w.	W. M. Jackson
Mandan	Morton	1,644	2	10.8	.....	50	23	−25	† 7	55	0.09	.....	0.02	.....	6	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	7.4	−0.2	40	23	−30	7	35	0.46	−0.06	0.15	5.0	6	10	8	11	nw.	P. B. Anderson
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.06	.....	1	.....	.....	.....	.....	A. J. Bretzaff
Marmarth	Slope	.....	7	15.4	.....	45	†20	−21	† 3	30	0.20	.....	0.08	3.8	4	15	5	9	w.	S. P. Grane
Marstonmoor	Stutsman	1,945	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber
Mayville	Traill	975	20	5.1	−3.3	41	†16	−36	13	35	0.79	+0.39	0.25	.....	5	19	5	5	nw.	W. C. Gould
Melville	Foster	1,590	18	7.0	−0.2	45	15	−25	7	35[b]	0.40	+0.05	0.40	4.0	1	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.15	1.0	1	16	3	10	n.	Hj. Edman
Minot	Ward	1,557	20	6.6	−1.7	45	15	−32	13	63	0.67	+0.17	0.30	6.5	5	15	8	6	nw.	W. I. Faris
Minto	Walsh	820	23	2.1	−3.8	44	23	−36	13	65	0.42	−0.14	0.20	.....	5	15	6	8	.....	C. M. Evans
Mott	Hettinger	2,424	9	12.2	.....	51	19	−28	3	35	0.28	.....	0.16	2.5	4	14	7	8	w.	O. H. Opland
Napoleon	Logan	1,955	24	4.2	−2.6	48	23	−28	7	47	0.30	−0.15	0.10	3.0	3	9	6	14	w.	C. J. Hoof
New England	Hettinger	2,400	22	11.8	−0.5	48	19	−23	† 5	66	0.00	−0.69	0.00	0	0	17	8	4	nw.	J. M. Connolly
New Salem	Morton	2,163	11	10.6	+1.8	47	†18	−26	7	29	0.44	+0.08	0.15	4.4	7	12	7	10	nw.	J. Christiansen
Orange†‡	Adams	2,586	7	13.8	.....	52	19	−23	5	30	2.30	.....	1.50	12.0	2	16	7	6	nw.	J. E. Goforth
Oriska	Barnes	1,270	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	12	4.9	+3.4	41	†16	−33	6	33	0.20	−0.25	0.15	2.0	3	17	7	5	n.	F. A. McCray
Pembina	Pembina	789	42	− 3.8	−5.6	34	17	−30	4	39	0.80	+0.05	0.40	.....	5	11	16	2	sw.	C. W. Shumaker
Plaza	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.18	4.0	3	15	9	5	nw.	J. A. Johnson
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	1.55	.....	0.60	15.5	7	10	12	7	nw.	C. Frank
Ranger	Slope	2,408	4	.....	.....	.....	.....	.....	.....	.....	0.27	.....	0.19	3.0	2	13	7	9	nw.	C. M. Hubbard
Steele	Kidder	1,857	19	9.9	+3.1	41	†22	−25	7	23	0.64	+0.17	0.20	8.0	7	6	19	4	w.	H. S. Wood
Towner	McHenry	1,482	14	4.6	−0.9	39	15	−31	† 7	41	0.50	+0.02	0.20	5.0	3	16	7	6	nw.	B. Bagley
Turtle Lake	McLean	1,899	4	6.6	.....	45	15	−22	13	31	0.40	.....	0.20	4.0	3	12	8	9	nw.	E. J. Jones
University	Grand Forks	830	24	1.6	−5.7	38	16	−36	13	37	0.65	+0.15	0.24	7.1	10	15	13	1	nw.	U. S. Weather Bureau
Wahpeton	Richland	962	22	8.2	−2.2	42	17	−32	13	50	0.21	−0.34	0.08	.....	3	16	3	10	nw.	F. E. Smith
Walhalla	Pembina	966	9	5.0	.....	47	16	−28	13	38	0.30	.....	0.30	3.0	1	22	1	6	w.	I. DeL. Lee
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	10	− 1.2	.....	41	17	−37	10	36	0.30	.....	0.20	3.0	2	3	23	3	nw.	W. A. Meddaugh
Williston	Williams	1,875	37	7.2	−0.7	45	15	−25	7	43	0.39	−0.10	0.18	4.2	8	13	4	12	nw.	U. S. Werther Bureau
Willow City	Bottineau	1,471	24	− 0.4	−3.8	37	15	−37	7	43	0.90	+0.50	0.50	9.0	4	12	13	4	nw.	M. A. Ostby
Zap	Mercer	1,800	3	10.0	.....	47	19	−30	7	35	0.18	.....	0.05	2.4	7	11	5	13	w.	H. A. Crandall
Moorhead, Minn.	Clay	935	35	4.8	−2.2	40	16	−30	13	37	0.51	+0.22	0.26	5.1	8	20	6	3	nw.	U. S. Weather Bureau
Averages	.....	.....	.....	6.4	−1.1	55	17	−39	13	66	0.46	−0.04	1.50	4.8	4	14	8	7	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for February, 1916.

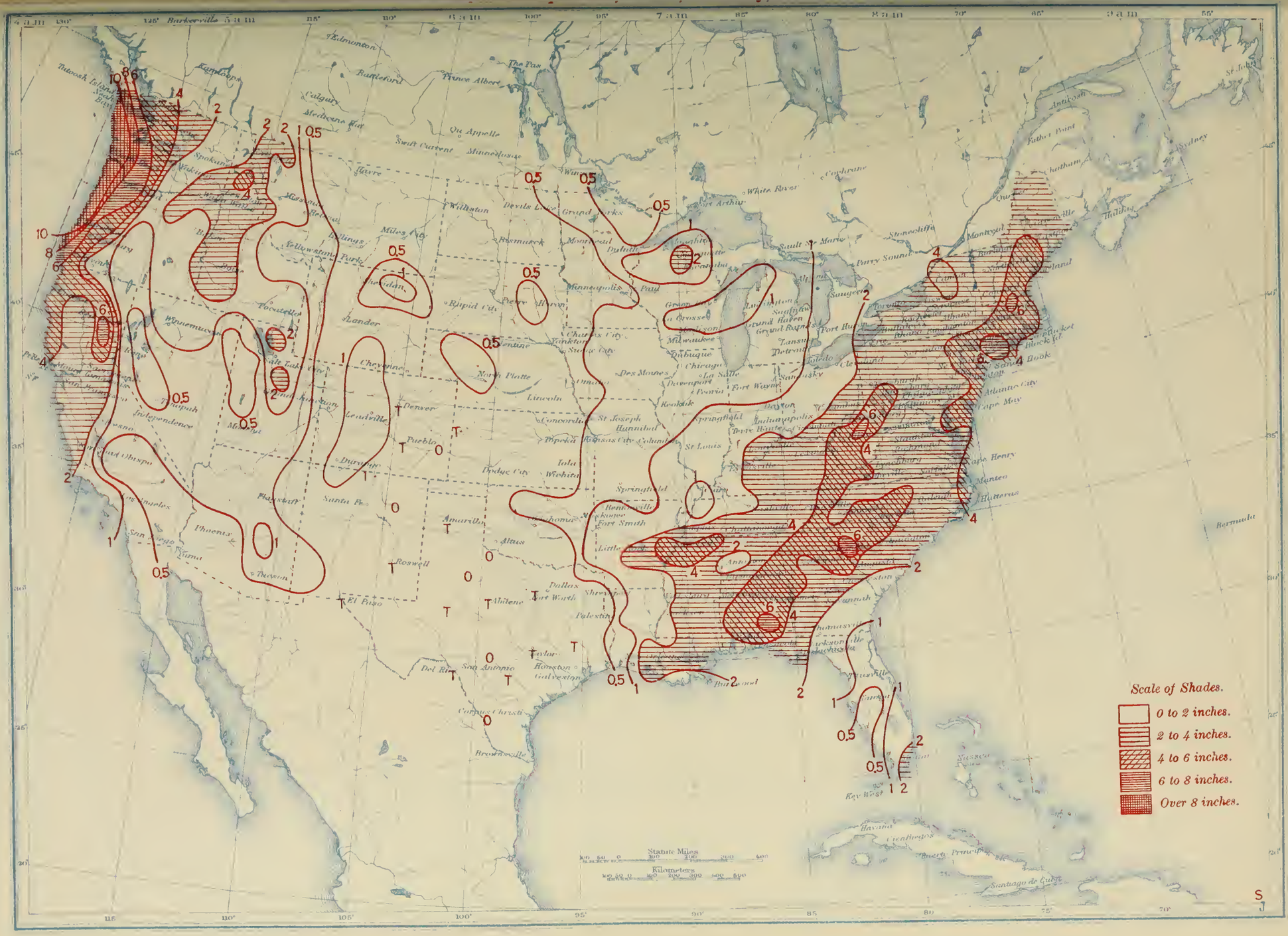
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red							T.	T.		T.	.15														T.			T.			0.15
Aplin	Knife					T.		T.	.05			.11		.05										T.	.02				.04	.03			0.30
Ashley	Missouri																													.10			0.10
Beach	Lit. Missouri											.04												T.	.02				T.	.04			0.10
Berthold Agency	Missouri					T.		T.	.05															T.	T.	T.	T.	.01	.01	T.			0.05
Bismarck ***	Missouri				.02	.01	T.	T.	.07	T.	.14	T.	T.																				0.39
Bottineau ‖ ‖	Mouse		.02		T.			.04	.01		.05	.04	.01		T.							T.				.03	.02		.02			0.24
Bowbells ‖ ‖	Mouse										*	1.20	T.											.05								1.25
Bowman	Grand																																0.00
Buford	Missouri							.10	.07	.13	.08													T.	T.	T.			T.	.04			0.42
Cando	Sheyenne									.12	.10																						0.22
Carson	Heart											.15														.02			.03	.05			0.25
Colgate	Sheyenne										.20	.20																					0.40
Cooperstown	Sheyenne								T.		.30			T.												T.							0.30
Crosby	Mouse							.25		.20														T.									0.45
Devils Lake ***	Sheyenne							.06	.04	.05	.14	.01	T.												T.	.02	T.	T.					0.32
Dickinson	Heart				T.	T.					.10	T.													T.	T.	.02		.05	.15			0.32
Pomeybrook	Mouse								.10	.05	.30	.10												T.	.05	T.							0.60
Dunseith	Mouse								.15		.15	.20													.05	.02		.05					0.62
Eckman	Mouse									*	.60															.20		T.					0.80
Edgeley	James				.10		T.				.01	.05																					0.16
Energy	Missouri						T.		.02	T.	.10													.01									0.13
Epping	Missouri							.04	.14	.07	.23	.07	.06											T.		.02	.01			.04			0.68
Fessenden ‖ ‖	James							T.	.06		.10	.11	T.												T.	T.	T.		T.	T.			0.27
Forman	Sheyenne																												.10				0.10
Fullerton	James			.02	.01	T.	.02	T.	.05		T.	.06		T.												T.			.03				0.19
Garrison	Missouri							.01	.01	.10	.40	.20												.03		T.	T.			T.			0.75
Goodall	Missouri							.35			.40																						0.75
Grafton ‖ ‖	Red								.10			.19	.03						.08								.09		.08				0.57
Grand Rapids	James										T.																						T.
Granville	Mouse									T.	T.	T.	*	.50										.03	.05								0.58
Hannah	Pembina																																
Hansboro	Red								.30		.30	.20						.30								.20							1.30
Hettinger	Grand																																
Hillsboro	Red						.10		.20		.30	.20	.10													.05							0.95
Howard	Missouri							.20	T.	.25	T.	T.	T.											T.		.20							0.65
Jamestown ‖ ‖	James								.02			.40													.03			T.					0.45
Lakota	Sheyenne								.02	T.	.04														T.	.04	T.	.02					0.12
Lamoine	Missouri									.10	.20	.20												T.					T.				0.50
Langdon ‖ ‖	Pembina				.10				.20		.05	.10			.10			.25								.05							0.85
Larimore ‖ ‖	Red								.10		.10	.17															.10		.20				0.67
Lisbon ‖ ‖	Sheyenne				T.			.10			T.	.20													T.				.02				0.32
McHenry	James							.15		.20	.17	.14		T.													.09							0.75
McKinney	Mouse											.30														.10							0.40
McLeod	Sheyenne											.20	.20																				0.40
Maddock	Sheyenne													.17																			0.17
Mandan ‖ ‖	Missouri					.02	.01			.02		.02	T.														T.		T.	.01			0.08
Manfred	Sheyenne					T.			.04	.10	.15	.10												T.		.05	T.		.02				0.46
Manning	Knife																																0.06
Marmarth	Lit. Missouri				.08			T.				.06														.03				.03			0.20
Marstonmoor	James																																
Mayville	Red							.25		.20		.20														.04	.10						0.79
Melville	James									T.	.40	T.												T.									0.40
Milnor	Red				T.					T.	T.	.15																					0.15
Minot ‖ ‖	Mouse								.05		.10	.30	.20												.02		T.						0.67
Minto	Red										.03	.06		.20													.08		.05				0.42
Mott	Cannon Ball				.08				T.	T.		.02														.02				.10			0.28
Napoleon ‖ ‖	Missouri								.10			.10																			.10			0.30
New England	Cannon Ball																																0.00
New Salem	Heart				.02		.02	T.	T.	.10	.15	.05												T.	T.	T.		T.	.05	.05			0.44
Orange	Cannon Ball				1.50							.80																					2.30
Oriska	Sheyenne																																
Park River	Red								.15		.03	T.					T.								T.	.02		T.					0.20
Pembina ‖ ‖	Red																		.10	.10	.10		.10	.40									0.80
Plaza	Missouri									.15	.18																		.04				0.37
Power	Sheyenne																																
Powers Lake	Missouri			T.	.10		.15			.25	T.	.60	T.											.20	.10					.15			1.55
Ranger	Lit. Missouri				.08			T.			T.	T.												T.		T.			T.	.19			0.27
Steele	Missouri			.12	.04	T.			.06		.20	.10	.06												T.	T.	T.		T.	.06			0.64
Towner	Mouse									.20		.10	.20																				0.50
Turtle Lake	Missouri						T.	T.	T.	T.	.20	.10												T.	T.	.10	T.						0.40
University	Red		.01			T.	.04	.09	.15	.04	.08	.05	.02		T.		T.									.06		.11					0.65
Walhalla	Red							T.	.07	T.	T.	.08	T.												T.	T.	T.		.06	T.			0.21
Walhalla	Pembina								.30																								0.30
Washburn	Missouri																																
Westhope	Mouse										.20	.10																					0.30
Williston ***	Missouri							.02	.05	.15	.10	.01												.02	T.	T.		T.	.02	.02			0.39
Willow City	Mouse		T.						.20		.50	.10																T.	.10				0.30
Zap	Knife							.04	.05		.02	.03												T.			.01		.01	.02			0.18
Moorhead, Minn ***	Red						.01	.06		.08	.22	.06	.02													.04			.02				0.51

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	- 2	2	0	3	4	- 2	4	13	6	6	12	0	12	26	40	43	42	36	44	45	36	38	36	38	36	20	24	4	- 3			15.3
	Minimum	-23	-28	-21	-20	-22	-23	-26	-31	-12	-20	-16	-10	-31	-26	0	12	22	6	8	13	8	6	8	6	8	6	- 8	- 3	-16			- 8.0
Aplin	Maximum																	55	45	48	43	46	44	47	40				47	12			
	Minimum																	32	28	35	35	20	—	26	23				7	- 1			
Ashley	Maximum	- 5	5	- 3	7	2	- 3	0	11	5	0	1	1	4	32	38	42	37	42	43	38	31	36	47	40	36	25	23	19	9			19.4
	Minimum	-18	-22	-18	-19	-22	-20	-25	- 4	-13	- 8	- 6	- 6	-27	- 1	10	22	28	14	25	21	20	18	27	16	20	8	3	5	- 8			0.7
Beach	Maximum	- 5	2	2	5	0	3	13	22	5	12	0	9	20	42	42	46	40	40	46	48	46	46	44	39	36	30	30	30	14			24.4
	Minimum	-18	-21	-20	-14	-19	-18	-18	- 2	-19	-18	-17	-12	- 5	20	27	33	28	25	24	30	24	23	28	19	16	10	15	- 2	- 6			3.9
Berthold Agency	Maximum	- 7	7	4	0	- 3	- 4	6	11	3	0	5	7	23	37	52	46	38	42	46	42	42	44	43	39	36	25	29	25	3			22.1
	Minimum	-19	-22	-21	-27	-23	-25	-34	-12	-24	-14	- 7	-13	-21	13	13	27	26	8	22	19	26	14	24	16	23	5	1	- 4	-11			- 1.4
Bismarck	Maximum	- 3	7	1	5	- 1	- 3	3	11	2	2	3	0	11	34	48	47	40	47	48	39	47	41	50	32	36	21	29	20	1			21.3
	Minimum	-17	-16	-17	-24	-18	-18	-25	0	-14	- 8	- 4	-19	-20	8	14	31	27	20	29	26	26	21	27	19	16	8	6	- 3	- 9			2.3
Bottineau §§	Maximum	-12	-17	- 6	4	-11	-13	- 4	- 6	- 4	-10	- 4	- 5	17	34	36	47	36	28	33	27	31	24	34	22	25	15	11	0	- 4			11.3
	Minimum	-29	-32	-30	-28	-20	-33	-35	-34	-28	-29	-21	-23	-30	-15	4	14	25	5	6	11	13	4	3	0	- 1	2	-13	-17	-19			-12.1
Bowbells §§	Maximum	- 2	1	- 5	- 1	-10	-12	- 1	8	- 4	-10	- 5	- 1	18	26	41	40	42	38	34	33	35	38	35	30	18	10	- 5	-10	-15			12.3
	Minimum	-25	-23	-24	-22	-25	-23	-28	-23	-26	-24	-28	-23	-21	- 4	4	26	20	14	10	20	15	5	0	0	- 2	-10	-20	-25	-30			-10.1
Carson	Maximum																																
	Minimum	-16	- 5	-10	- 4	-13	-12	2	3	- 3	0	3	-12	8	25	32	36	30	30	32	30	32	30	36	30	25	20	25	5	- 3			12.3
Colgate	Maximum	- 5	0	- 3	0	0	- 5	- 2	4	2	- 2	- 3	- 4	0	24	37	37	36	36	36	33	33	33	41	37	32	21	23	20	- 3			15.8
	Minimum	-25	-22	-22	-13	-13	-20	-27	- 8	-17	-24	-12	-17	-35	- 3	3	30	28	8	18	16	13	12	14	6	9	8	- 5	- 6	-16			- 4.1
Crosby	Maximum	- 7	4	—	4	- 9	-10	- 7	- 4	- 4	- 3	- 1	18	18	30	39	37	35	36	38	36	36	—	37	35	32	19	—	- 5	- 4			15.4
	Minimum	-21	-14	—	-17	-22	-18	-18	-22	-19	-16	-25	-21	- 4	16	25	28	27	19	16	18	6	—	19	3	19	1	—	-20	-26			- 2.2
Devils Lake	Maximum	- 9	- 2	- 5	1	- 6	-11	- 4	- 1	- 3	-10	- 6	- 5	7	27	38	39	35	33	34	25	32	29	38	18	28	11	15	9	- 7			12.1
	Minimum	-25	-19	-24	-16	-18	-22	-29	- 8	-24	-20	-14	-23	-24	7	12	29	12	9	20	8	19	5	18	1	7	0	- 6	-18	-22			- 5.7
Dickinson	Maximum	- 4	6	3	2	- 2	- 3	6	14	5	2	8	4	22	38	43	45	40	45	49	52	46	45	46	37	34	24	29	25	15			23.3
	Minimum	-19	-19	-22	-20	-19	-14	-22	- 2	-19	- 9	0	- 9	-16	16	22	32	32	34	29	29	26	20	29	20	20	6	9	1	- 6			4.1
Donnybrook	Maximum	- 5	- 1	- 3	- 4	- 5	-12	- 4	- 2	- 2	- 7	- 7	- 7	15	—	40	—	37	—	—	—	—	33	36	33	32	12	16	16	14			[f] 9.8
	Minimum	-21	-17	-21	-13	-18	-19	-26	-28	-21	-24	-14	-25	-23	15	20	32	27	19	27	13	21	10	9	6	15	- 2	- 8	-11	-18			- 3.3
Dunseith	Maximum	- 5	-10	0	0	- 3	- 8	- 3	- 4	- 4	- 5	- 5	- 6	4	45	45	44	39	43	40	36	34	38	37	28	16	10	10	- 5	0			14.2
	Minimum	-24	-30	-15	-16	-18	-28	-33	-20	-18	-20	-15	-24	-24	3	33	26	5	33	24	16	18	26	1	- 4	2	-12	-20	-22	-26			- 6.3
Edgeley	Maximum	- 5	4	0	5	1	- 4	- 1	11	4	- 1	0	5	3	35	51	50	45	50	50	45	34	32	49	41	36	34	30	33	11			22.3
	Minimum	-18	-18	-17	-18	-20	-18	-26	- 5	-13	- 6	- 7	- 2	1	2	14	28	30	19	29	24	22	19	21	15	18	8	2	1	- 1			2.9
Fessenden §§	Maximum	- 5	2	- 9	0	- 2	- 7	3	1	- 2	-10	- 5	- 2	25	30	42	38	35	38	37	31	38	35	43	31	33	15	25	1	- 2			15.8
	Minimum	-23	-23	-23	-19	-11	-24	-31	-25	-20	-21	-19	-15	-27	- 2	7	28	25	11	22	18	21	12	18	5	7	4	- 1	-11	-16			- 5.3
Forman	Maximum	- 3	6	2	6	4	- 2	0	10	6	4	6	2	5	26	34	39	37	37	42	39	33	32	39	39	36	27	27	20	4			19.2
	Minimum	-22	-26	-17	-20	-21	-20	-30	- 3	-12	- 6	- 4	- 7	-27	- 5	5	24	28	15	21	23	20	18	15	14	14	10	2	3	-11			0.7
Fullerton	Maximum	- 5	5	0	3	0	- 2	- 1	12	4	0	0	- 1	0	38	40	42	40	44	45	35	33	34	47	41	36	21	25	27	5			19.6
	Minimum	-17	-17	-16	-19	-17	-13	-24	- 2	-12	- 7	- 6	- 8	-22	- 2	8	18	26	20	27	24	24	20	22	15	17	10	3	10	- 9			1.8
Garrison	Maximum	- 5	5	0	- 5	- 4	- 6	0	6	1	- 5	0	0	13	29	43	38	35	37	39	35	35	38	39	35	30	23	23	16	7			17.3
	Minimum	-21	-20	-23	-23	-22	-22	-32	-10	-21	-15	-10	-10	-20	7	15	29	25	10	23	15	19	7	21	18	22	0	-10	- 8	-13			- 2.4
Grafton §§	Maximum	- 6	3	- 4	1	- 1	- 9	- 2	5	1	-10	- 5	- 4	13	28	41	44	39	25	39	26	37	23	38	15	30	14	19	- 5	- 8			13.3
	Minimum	-30	-28	-29	-24	-28	-26	-32	-24	-21	-25	-23	-19	-39	-25	- 3	19	29	- 2	5	7	4	4	6	- 2	- 2	5	-16	-16	-26			-12.4
Granville	Maximum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	34	25	35	15	20	15	5			[e]23.0
	Minimum	-10	- 5	-21	-15	-21	-20	-24	-28	-18	0	-10	-11	- 5	18	24	22	24	14	22	20	15	10	22	8	10	0	- 8	-14	-16			0.6
Hannah	Maximum																																
	Minimum																																
Hansboro	Maximum	- 6	- 2	- 4	- 2	- 7	-10	- 4	0	0	0	- 7	-10	- 5	28	42	40	41	35	35	30	37	29	38	35	32	18	10	-10	- 9			12.9
	Minimum	-22	-22	-27	-20	-18	-34	-33	-22	-24	-28	-14	-27	-34	2	11	28	24	4	12	5	10	2	12	6	10	- 2	-10	-23	-26			- 9.0
Hettinger	Maximum																																
	Minimum																																
Howard	Maximum	- 8	0	-11	- 8	- 9	-12	- 3	3	- 6	- 9	- 3	- 5	20	31	37	36	33	33	35	36	33	29	33	31	30	17	17	15	- 4			13.5
	Minimum	-27	-19	-25	-20	-27	-26	-30	-21	-26	-19	-12	-21	-20	14	14	17	19	16	14	14	8	0	21	11	7	- 5	-11	-11	-14			6.2
Jamestown §§	Maximum	- 6	4	- 3	- 2	0	- 5	- 8	9	0	- 5	- 3	- 4	22	28	42	41	37	40	41	33	34	34	38	34	38	18	27	6	0			17.2
	Minimum	-20	-21	-20	-19	-18	-16	-27	-24	-12	-16	-13	-10	-28	-23	8	19	21	10	19	24	22	17	16	15	16	7	- 1	0	-13			- 3.0
Lakota	Maximum	-13	- 7	- 9	- 7	- 7	-12	- 8	- 5	- 6	- 9	-12	-10	- 1	23	37	34	33	36	30	25	29	27	35	29	25	15	15	10	10			10.4
	Minimum	-31	-26	-27	-22	-19	-26	-32	-14	-26	-27	-23	-21	-34	- 4	0	23	24	6	15	10	9	6	12	0	7	1	-10	-16	-22			- 9.2
Lamoine	Maximum	- 6	3	- 4	- 2	- 5	- 9	- 4	5	0	- 6	- 3	- 3	2	26	44	38	34	36	—	45	35	33	41	32	31	17	23	17	- 4			[a]14.8
	Minimum	-24	-23	-23	-20	-21	-23	-32	-11	-22	-18	-11	-13	-26	2	10	26	21	11	—	15	21	9	15	8	13	3	- 8	- 9	-15			[a-5.2
Langdon	Maximum	- 9	- 3	- 2	2	0	- 2	- 5	0	- 2	23	24	10	12	26	35	39	36	33	34	24	32	24	36	23	34	12	11	4	0			15.6
	Minimum	-32	-33	-34	-30	-22	-29	-36	-30	-30	-27	10	9	-31	-21	5	16	26	2	8	6	10	0	0	- 4	- 4	0	-14	-20	-28			-11.5
Larimore §§	Maximum	- 4	3	- 4	- 2	- 6	- 5	- 1	3	2	-10	- 7	- 3	22	6	40	40	40	35	37	39	33	40	10	45	43	40	25	- 3	- 3			16.8
	Minimum	-24	-22	-24	-15	-21	-19	-28	-14	-19	-22	-17	-21	-33	-13	3	31	33	4	13	12	25	20	20	2	25	7	25	-10	-22			- 3.6
Lisbon §§	Maximum	4	10	11	8	10	14	16	15	12	10	10	13	18	38	40	45	41	41	39	40	36	48	22	20	21	16	12	12	12			21.9
	Minimum	-23	-22	-21	-22	-24	-23	-12	-12	-15	-12	- 8	-18	-30	-12	10	20	24	22	18	18	12	8	10	2	-10	- 6	-10	-12	-12			- 5.5
McHenry	Maximum	- 3	- 1	- 3	2	- 3	-10	0	- 2	3	- 3	- 6	- 4	6	27	38	39	36	35	34	28	28	29	39	35	31	16	22	- 6	- 5			14.2
	Minimum	-27	-23	-23	-18	-15	-22	-32	-15	-23	-23	-23	-19	-24	- 2	6	25	22	9	17	10	21	6	17	6	7	2	- 8	-15	-20			- 6.3
McKinney	Maximum	0	10	0	4	0	- 4	- 2	- 1	2	5	- 5	- 3	18	33	45	46	45	42	37	35	40	39	38	35	34	20	31	20	14			19.9
	Minimum	-22	-15	-20	-18	-20	-22	-22	-19	-23	-23	-12	-32	-30	15	28	28	25	20	7	12	15	0	11	5	15	- 2	- 5	-12	-19			- 4.7
Maddock	Maximum	- 5	- 2	- 3	- 2	- 2	- 8	- 2	0	- 1	- 4	- 6	- 3	8	26	40	38	35	33	33	32	35	33	39	35	31	20	18	18	- 5			14.9
	Minimum	-25	-21	-24	-18	-12	-22	-31	-12	-25	-28	-13	-25	-33	5	6	28	24	9	23	10	22	5	22	4	13	0	- 7	-13	-18			- 5.4
Marmarth	Maximum	0	3	4	6	0	0	12	21	12	6	28	11	22	34	40	41	46	40	42	45	44	45	44	38	35	26	26	25	16			24.6
	Minimum	-19	-19	-21	-17	-21	- 7	- 5	2	-14	- 7	0	- 5	- 8	15	22	32	28	20	31	26	24	21	26	22	25	11	12	10	- 3			6.2
Minot §§	Maximum	- 1	6	1	7	- 1	7	4	4	2	- 3	- 3	- 1	31	35	45	44	35	39	42	28	41	32	40	34	32	13	21	1	- 6			17.8
	Minimum	-22	-23	-22	-22	-16	-20	-29	-30	-20	-23	-24	-24	-32	- 6	15	33	25	18	26	12	15	16	14	12	10	6	- 1	- 5	-14			- 4.5
Moll	Maximum	0	- 1	- 2	- 2	- 4	- 3	8	10	7	6	7	5	10	40	42	49	40	46	51	50	38	42	33	35	29	27	28	23	13			21.6
	Minimum	-22	-18	-28	-22	-25	-18	-20	0	-18	- 6	0	-14	-17	5	26	26	27	26	28	23	23	21	23	25	23	5	11	1	- 6			2.7
Napoleon §§	Maximum	- 5	4	- 3	8	- 5	- 4	10	4	1	0	2	- 3	20	28	40	42	43	42	36	32	33	40	48	32	35	18	25	5	3			18.3
	Minimum	-25	-22	-24	-18	-20	-20	-28	-23	-20	-10	-10	-11	-27	-10	10	25	25	17	18	18	13	12	12	15	12	4	- 1	0	-11			- 3.4
New England	Maximum	-12	- 4	- 4	4	5	0	-10	20	7	7	11	7	11	37	43	40	44	46	48	47	46	44	46	40	40	26	34	30	25			23.7
	Minimum	-20	-18	-20	-18	-23	-20	-20	-10	-17	- 6	-11	-11	-18	-14	-23	7	18	20	20	22	25	25	22	19	23	23	18	11	- 5			- 0.2
New Salem	Maximum	3	7	- 2	0	- 1	- 6	1	4	2	0	2	2	7	36	40	45	40	47	46	45	40	45	47	36	38	26	29	20	9			20.9
	Minimum	-23	-18	-23	-23	-22	-19	-26	- 5	-20	-14	- 7	-18	-20	7	15	28	30	20	30	30	20	17	28	16	15	5	4	- 3	-12			0.4
Orange	Maximum	0	4	1	2	- 5	0	17	22	3	2	10	5	10	39	44	49	49	50	52	51	51	51	51	37	34	21	28	21	11			24.5
	Minimum	-19	-20	-21	-15	-23	-22	-13	- 5	-15	- 9	0	-15	-15	10	21	32	18	20	27	28	25	22	21	17	15	14	12	0	- 2			3.1
Oriska	Maximum																																
	Minimum																																
Park River	Maximum	- 9	- 3	- 4	1	- 6	- 2	- 5	1	- 2	- 3	- 8	- 3	8	28	39	41	41	34	36	32	34	31	40	23	30	15	17	13	- 9			14.1
	Minimum	-27	-17	-28	-10	-20	-33	-28	- 8	-16	-21	-15	-16	-25	- 1	10	33	25	4	19	13	13	9	19	3	7	7	13	-11	-23			- 4.3
Pembina §§	Maximum	- 5	-10	-12	- 8	-10	- 5	- 2	0	5	10	12	8	10	14	22	28	34	32	30	36	39	20	26	12	8	0	-10	-12	- 8			8.4
	Minimum	-25	-32	-28	-30	-24	-22	-20	-18	-16	-18	-15	-14	-16	-12	-10	- 8	- 5	0	2	0	- 5	- 2	- 5	-10	-15	-20	-32	-35	-30			-16.0
Power	Maximum																																
	Minimum																																
Towner	Maximum	- 8	- 2	- 3	- 4	- 6	- 8	- 4	- 1	- 4	- 8	- 6	- 3	18	26	39	38	34	31	33	33	34	31	36	34	32	19	16	16	-10			13.9
	Minimum	-25	-22	-22	-20	-15	-24	-31	-15	-26	-26	-12	-21	-31	8	9	27	21	5	14	8	21	1	14	2	9	- 2	- 8	-13	-18			- 4.8
Turtle Lake	Maximum	- 8	3	- 3	- 4	-11	-12	0	0	- 6	- 7	- 2	- 5	8	30	45	40	35	10	42	35	35	38	45	28	26	16	20	0	- 6			14.6
	Minimum	-21	-14	-20	-21	-20	-18	-30	- 9	-19	-17	- 7	-11	-22	6	14	30	21	23	15	20	20	12	25	12	16	3	- 6	- 7	-13			- 1.3
University	Maximum	- 9	1	- 4	- 2	1	- 4	- 6	4	- 2	- 3	- 3	- 6	- 1	22	38	38	38	31	35	26	33	23	37	17	30	11	20	9	- 8			12.7
	Minimum	-25	-26	-25	-13	-24	-22	-30	- 9	-21	-22	-10	-18	-36	- 1	1	25	6	1	12	6	6	4	6	1	2	- 6	-12	-22	-22			- 9.1
Wahpeton §§	Maximum	- 5	3	- 4	4	0	5	7	20	20	5	8	30	12	35	41	40	42	37	44	30	33	22	41	16	38	10	22	5	5			19.5
	Minimum	-30	-26	-28	-30	-28	-25	-31	-11	-15	-15	- 3	- 8	-32	-15	- 1	5	23	4	5	10	14	12	5	6	0	5	-11	0	-21			- 3.1
Washburn	Maximum																																
	Minimum																																
Westhope	Maximum	- 4	- 4	- 2	- 6	- 4	-10	-13	- 5	- 2	- 5	-10	- 6	8	18	30	32	41	33	31	33	25	25	34	32	20	17	16	- 8	- 9			10.6
	Minimum	-20	-20	-22	-22	-25	-33	-33	-30	-37	-27	-27	-28	8	4	5	6	6	6	10	7	- 4	1	- 2	- 4	-16	-19	-20	-22				-13.1
Williston	Maximum	- 7	4	0	- 5	- 6	- 8	8	7	- 3	- 5	4	- 2	26	35	45	43	36	41	44	33	36	40	37	—	—	17	22	7	- 3			[b]16.5
	Minimum	-20	-15	-22	-21	-21	-18	-25	-12	-22	-13	- 6	-16	-17	22	23	29	20	17	20	15	15	6	22	—	—	15	- 4	- 6	-15			[b-2.0
Willow City	Maximum	- 8	- 5	- 4	- 1	- 5	-11	- 5	- 5	- 7	- 7	- 2	- 4	9	23	37	36	32	26	23	32	28	32	35	30	25	16	14	13	-10			11.6
	Minimum	-36	-26	-34	-27	-19	-30	-37	-20	-30	-27	-12	-28	-34	- 1	0	22	18	0	3	17	- 5	4	0	- 5	9	- 8	13	-22	-22			-12.5

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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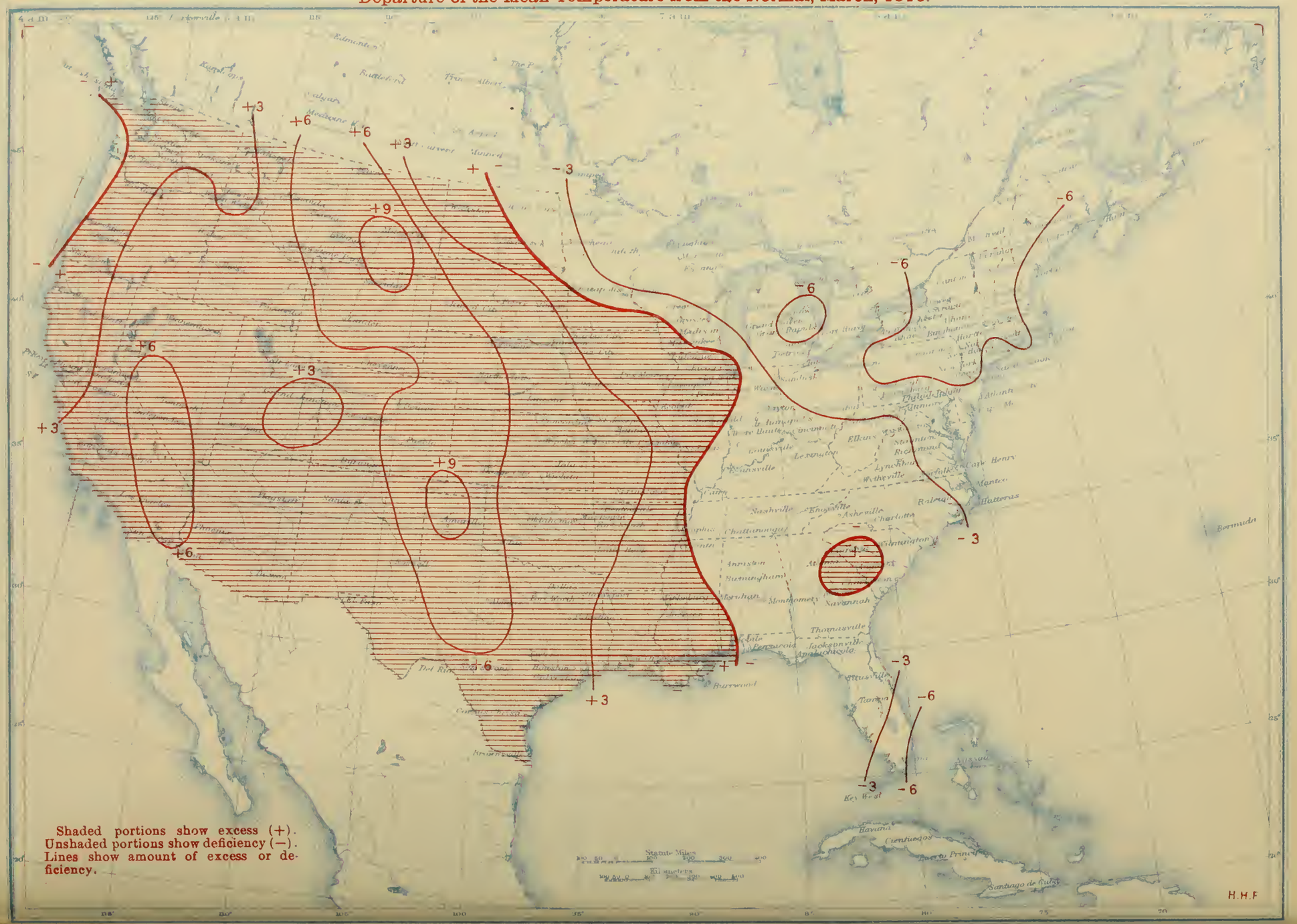
NORTH DAKOTA SECTION

MARCH, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 27, 1916.

Departure of the Mean Temperature from the Normal, March, 1916.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., MARCH, 1916. No. 3.

GENERAL SUMMARY.

The weather of the month was cold, stormy and unfavorable for outdoor work. The temperature averaged below the normal, and especially so during the first decade, practically all stations reporting temperatures of −20° to −45° below zero. These low temperatures, however, were of great benefit in reducing the danger from floods in the Upper Missouri River and its tributaries. These streams broke up much earlier than common, and by gorging caused considerable loss to property. The cold weather prevented the thick ice in the Missouri River from breaking, with the result that it rose to the highest stage of record for the season of the year, and allowed the flood waters to pass under. The precipitation for the State was, with but one exception, the greatest of record. Most of the precipitation occurred in the form of snow, resulting in much delay to traffic, especially on the small branch lines. The wind movement was above, and the sunshine below, the normal.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.05 inches. The highest was 30.64 inches at Bismarck, Burleigh County, on the 15th; the lowest was 29.30 inches at Moorhead on the 6th.

TEMPERATURE.

The mean temperature for the State was 20.3°, or 2.0° below the normal, and 2.6° lower than the mean for March, 1915. The highest mean reported was 29.8° at Bowman, Bowman County, and Marmarth, Slope County; the lowest was 12.7° at Westhope, Bottineau County. The highest temperature reported was 69° at Orange, Adams County, on the 27th; the lowest was −45° at Cando, Towner County, on the 1st. The greatest monthly range of temperature was 94° at Orange, Adams County; the least was 52° at Hannah, Cavalier County. The greatest daily range of temperature was 55° at Grafton on the 17th. Usually the highest temperature was recorded on the 27th, and the lowest on the 2d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 83.8 per cent, the average at 7 a. m. being 87.8 per cent, and at 7 p. m. 79.7 per cent.

PRECIPITATION.

The average precipitation for the State was 1.48 inches, or 0.61 inch above the normal, and 1.26 inches more than the average for March, 1915. The greatest monthly amount reported was 4.12 inches at Steele, Kidder County; the least was 0.30 inch at Buford, Williams County. The greatest amount recorded in any twenty-four consecutive hours was 1.95 inches at Fullerton, Dickey County, on the 21st. The greater portion of the precipitation occurred in the form of snow, the only amounts of heavy rain being recorded on the last three days of the month. The average depth of snowfall was 19.5 inches. The average number of days with 0.01 inch or more of precipitation was 6. Four stormy periods occurred: the 6th-7th, 13th to 15th, inclusive, 20th to 25th, inclusive, and the 28th to 31st, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 11.1 miles. The greatest wind movement was 10,022 miles at Devils Lake, an average of 13.5 miles per hour; the least was 6,850 miles at Williston, an average of 9.2 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 46 miles per hour from the northwest at University on the 9th

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 11, partly cloudy days 9, and cloudy days 11.

ERRATA, FEBRUARY, 1916.

Page 12: Dickinson, monthly mean and departure should be 13.7, +1.8; Garrison, monthly mean and departure should be 7.5, −1.0; Grafton, date of highest temperature should be 16; Grand Rapids, highest temperature and date should be 49 on 23d; Napoleon, monthly mean and departure should be 7.4, +0.6; Turtle Lake, monthly mean should be 7.2; Westhope, monthly mean should be −1.4, date of highest temperature, 16, and greatest daily range, 46.

Page 13: Precipitation at Marmarth on the 28th should be trace.

Page 14: Maximum temperatures at Garrison should be 40 on 16th and 36 on 20th and mean maximum, 17.4. Maximum temperatures at Orange should be 25 on the 26th and 23 on the 28th and mean maximum 24.7; also minimum temperatures should be 10 on the 26th and 27th and mean minimum, 2.9. Maximum temperatures at Turtle Lake should be 35 on the 24th, 19 on the 26th and 20 on the 28th and mean maximum, 15.6. Maximum temperatures at Westhope should be set back one day and −9 entered on the 29th, making mean maximum 10.4.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.9	66	−35	0.83	−0.04	4	12	8	11	sw.
1893...	13.9	−8.4	68	−35	0.99	+0.12	5	13	7	11	nw.
1894...	24.8	+2.5	69	−22	1.45	+0.58	5	12	9	10	nw.
1895...	23.2	+0.9	75	−35	0.16	−0.71	2	16	10	5	nw.
1896...	15.7	−6.6	70	−35	1.18	+0.31	8	12	10	9	nw.
1897...	11.9	−10.4	58	−48	1.27	+0.40	7	15	7	9	nw.
1898...	21.3	−1.0	79	−24	0.79	−0.08	5	13	8	10	nw.
1899...	7.5	−14.8	72	−30	1.00	+0.13	5	12	10	9	nw.
1900...	20.3	−2.0	77	−24	1.01	+0.14	5	14	7	10	nw.
1901...	25.3	+3.0	85	−32	0.86	−0.01	5	15	8	8	nw.
1902...	27.4	+5.1	65	−25	2.73	+1.86	8	10	6	15	nw.
1903...	22.1	−0.2	80	−24	0.55	−0.32	3	12	6	13	nw.
1904...	18.2	−4.1	64	−26	1.33	+0.46	5	11	6	14	nw.
1905...	32.5	+10.3	81	−25	0.87	0.00	4	11	8	12	nw.
1906...	18.5	−3.8	67	−34	0.38	−0.49	3	15	6	10	nw.
1907...	23.1	+0.8	83	−20	0.70	−0.17	4	14	9	8	nw.
1908...	21.1	−1.2	68	31	1.16	+0.29	8	10	9	12	nw.
1909...	24.0	+1.7	61	−24	0.32	−0.55	4	10	9	12	nw.
1910...	11.3	+19.0	90	−7	0.97	+0.10	3	18	8	5	nw.
1911...	30.6	+8.3	78	−18	0.24	−0.63	2	16	10	5	nw.
1912...	15.4	−6.9	65	−28	0.33	−0.54	3	17	8	6	nw.
1913...	17.2	−5.1	70	−31	0.81	−0.06	6	12	9	10	nw.
1914...	25.5	+3.2	76	−20	0.90	+0.03	5	10	9	12	nw.
1915...	23.3	+1.0	63	−23	0.22	−0.65	2	16	6	9	nw.
1916...	20.3	−2.0	69	−45	1.48	+0.61	6	11	9	11	nw.

Climatological Data for March, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days—				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	20	20.0	−3.5	51	31	−20	2	45	0.32	−0.32	0.20	.....	3	17	0	14	n.	E. T. Carley
Aplin	Oliver	1,900	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	19	25.4	+3.3	56	20	−22	2	36	1.68	+0.32	0.55	8.0	5	16	3	12	nw.	R. C. Miles
Beach	Golden Valley	2,576	10	29.2	.....	65	19	−20	2	41	0.54	.....	0.23	.....	5	17	7	7	e.	D. J. Steiner
Berthold Agency††	McLean	2,082	22	24.0	−1.0	56	†11	−25	2	34	0.86	−0.10	0.40	9.0	4	10	12	9	nw.	C. L. Hall
Bismarck	Burleigh	1,674	42	24.7	+2.6	59	11	−23	2	34	3.27	+2.31	1.80	25.6	8	13	7	11	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	24	14.2	−3.5	44	27	−31	2	45	0.46	−0.50	0.16	.....	7	8	10	13	nw.	H. F. Steinmeier
Bowbells	Burke	1,958	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Phelps
Bowman	Bowman	.....	2	29.8	.....	65	20	−17	2	41	0.65	.....	0.17	12.5	8	14	0	17	.....	L. S. Diehl
Buford	Williams	1,944	37	23.8	+0.2	53	11	−30	2	35	0.30	−0.25	0.15	3.0	3	12	14	5	n.	P. Elmore
Cando	Towner	1,488	15	12.9[e]	−8.9	44[e]	9	−45[e]	1	42[e]	1.01	+0.25	0.35	.....	5	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	4	.....	.....	.....	.....	.....	.....	.....	2.20	.....	1.00	12.0	5	15	9	7	nw.	J. W. Evens
Colgate	Steele	1,177	2	21.4	.....	49	28	−19	2	32	1.80	.....	0.30	18.0	8	13	10	8	ne.	H. P. Rice
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.30	5.0	2	16	10	5	nw.	S. Friswold
Crosby	Divide	1,954	9	18.0	.....	47	27	−30	3	45	1.05	.....	0.60	10.5	2	.....	.....	.....	nw.	H. G. Anderson
Devils Lake	Ramsey	1,482	12	17.0	−1.5	46	27	−27	1	35	1.09	+0.08	0.46	13.0	10	7	8	16	nc.	U. S. Weather Bureau
Dickinson	Stark	2,543	24	27.4	+2.7	63	19	−29	2	38	1.19	+0.29	0.60	8.5	10	6	13	12	.....	L. R. Waldron
Donnybrook	Ward	1,760	17	17.3	−6.0	44	27	−27	1	33	0.65	−0.24	0.40	7.0	3	10	11	10	nw.	Geo. Michel
Dunseith	Rolette	1,682	20	18.2	−0.6	46	25	−30	1	38	0.82	−0.16	0.40	8.2	4	4	20	7	nw.	J. G. Lamont
Eckman	Bottineau	.....	11	14.4[a]	.....	43[a]	27	−34[a]	1	47[a]	0.56	.....	0.20	8.0	7	.....	.....	.....	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	15	24.5	−2.7	55	20	−20	2	32	1.59	+0.57	0.80	6.8	3	6	8	17	nw.	O. A. Thompson
Energy ††	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	1.48	.....	0.54	.....	5	8	15	8	nw.	N. W. Solenberger
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	0.56	.....	0.30	11.0	4	21	2	8	w.	M. E. Uggen
Fessenden	Wells	1,610	4	19.9	.....	47	27	−20	† 1	41	1.93	.....	0.48	17.5	7	10	14	7	nw.	G. T. Seymour
Forman	Sargent	1,249	24	26.0	+0.4	54	†27	−20	2	31	1.15	+0.23	0.60	9.0	3	14	7	10	nw.	A. Maltby
Fullerton	Dickey	1,439	18	25.5	−0.1	56	26	−19	2	31	2.08	+0.77	1.95	20.8	3	6	12	13	nw.	F. O. Alin
Garrison	McLean	1,901	21	20.4	−1.4	49	27	−27	2	42	2.83	+1.80	1.55	22.2	6	12	8	11	nw.	G. L. Robinson
Goodall	McKenzie	2,200	2	20.3	.....	47	27	−26	2	40	0.80	.....	0.30	5.5	3	17	1	13	nw.	C. H. Layman
Grafton	Walsh	827	24	15.1	−4.1	50	18	−28	2	55	1.28	+0.54	0.44	22.2	8	15	3	13	ne.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Leick
Granville	McHenry	1,504	9	18.6	.....	47	27	−24	1	40	1.50	.....	0.50	17.0	4	11	5	15	nw.	W. A. Christianson
Hannah	Cavalier	1,568	11	16.8[d]	.....	40[d]	30	−12[i]	8	42[i]	1.30	.....	0.60	13.0	5	.....	.....	.....	nw.	J. Moffatt
Hansboro	Towner	1,597	8	15.1	.....	38	30	−30	1	38	2.30	.....	0.70	23.0	6	12	9	10	nw.	C. E. Blackorby
Hettinger	Adams	2,253	8	27.8	.....	67	27	−23	2	47	3.04	.....	2.54	.....	5	14	7	10	nw.	A. J. Ogaard
Hillsboro	Traill	901	10	19.2	.....	46	31	−22	2	36	1.55	.....	0.50	15.5	8	16	7	8	nw.	F. E. Mayall
Howard	Williams	2,275	7	15.5	.....	39	26	−33	2	27	1.80	.....	0.70	18.0	6	6	12	13	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	24	21.3	−1.5	54	27	−20	2	37	2.55	+1.54	1.00	8.0	6	5	7	19	e.	S. Calvelage
Lakota	Nelson	1,579	15	15.0[a]	−4.9	41[a]	27	−26[a]	2	37[a]	0.52	−0.09	0.20	13.0	7	.....	.....	.....	nw.	C. R. Pettes
Lamoine	Kidder	1,936	8	19.5[b]	.....	46[a]	27	−28	2	37	3.00	.....	1.40	30.0	4	.....	.....	.....	nw.	E. V. Virgin
Langdon	Cavalier	1,615	20	12.8	.....	40	31	−36	† 1	42	1.25	.....	0.50	12.5	5	15	11	5	ne.	R. T. Burke
Larimore	Grand Forks	1,134	21	16.9	−4.3	42	27	−23	† 1	49	1.12	+0.29	0.60	11.2	5	13	7	11	n.	G. G. Graham
Lisbon	Ransom	1,091	12	26.0	−1.7	48	20	−19	2	37	0.80	+0.12	0.70	8.0	3	22	1	8	nw.	W. S. Adams
McHenry	Foster	1,509	6	18.9	.....	45	†27	−26	2	36	0.85	.....	0.37	8.0	4	22	3	6	nw.	P. E. Trudeau
McKinney	Renville	1,640	22	16.8	−2.0	47	9	−34	1	39	0.70	−0.14	0.40	7.5	4	6	17	8	nw.	N. P. Swenson
McLeod	Ransom	1,075	4	25.0	.....	55	29	−21	2	43	1.15	.....	0.60	10.5	3	9	11	11	nw.	E. W. Griggs
Maddock	Benson	.....	1	18.7	.....	46	† 8	−25	† 1	49	0.86	.....	0.40	.....	3	12	19	0	nw.	W. M. Jackson
Mandan	Morton	1,644	2	.....	.....	.....	.....	.....	.....	.....	1.89	.....	0.56	.....	10	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	19.8	−4.4	45	27	−20	† 1	41	2.57	+1.74	0.70	22.8	7	9	7	15	nw.	P. B. Anderson
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	7	29.8[a]	.....	63[a]	20	−15[a]	† 2	37[a]	1.02	.....	0.31	9.0	8	8	11	12	nw.	S. P. Grane
Marstonmoor	Stutsman	1,945	7	18.4[f]	.....	50[b]	27	−37[d]	2	41[b]	1.00	.....	0.40	10.2	5	.....	.....	.....	w.	H. H. McCumber
Mayville	Traill	975	20	19.9	−3.3	45	31	−20	2	28	2.37	+1.69	0.60	.....	8	16	5	10	n.	W. C. Gould
Melville	Foster	1,590	18	17.9[c]	−4.9	42[a]	†27	−18	1	32	2.10	+1.48	0.60	21.0	6	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	2.00	.....	0.85	14.0	6	13	12	6	n.	Ilj. Edman
Minot	Ward	1,557	20	19.2	−2.0	49	27	−23	2	38	1.35	+0.60	0.60	13.5	3	6	14	11	nw.	W. I. Faris
Minto	Walsh	820	23	16.4	−4.7	48	31	−29	1	39	1.71	+0.81	0.51	.....	5	14	5	12	n.	C. M. Evans
Mott	Hettinger	2,424	9	26.5	.....	63	27	−28	2	37	2.61	.....	1.14	19.0	6	10	9	12	w.	O. H. Opland
Napoleon	Logan	1,955	24	21.8	+0.4	60	27	−27	2	41	2.95	+2.04	1.00	23.0	9	6	8	17	e.	C. J. Hoof
New England	Hettinger	2,400	22	29.0	+4.5	54	20	−24	2	40	1.92	+1.10	1.00	18.0	5	12	12	7	nw.	J. M. Connolly
New Salem	Morton	2,163	11	22.9	−2.3	58	†11	−28	2	40	2.82	+1.96	1.30	20.0	9	10	8	13	sc.	J. Christiansen
Orange ††	Adams	2,586	7	27.6	.....	69	27	−25	2	40	1.35	.....	0.50	30.0	4	17	8	6	sc.	J. E. Goforth
Oriska	Barnes	1,270	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor
Park River	Walsh	998	12	16.5	−6.1	44[a]	31	−23	1	39[a]	0.81	+0.20	0.25	8.1	5	17	4	10	n.	F. A. McCray
Pembina	Pembina	789	42	15.2	−0.9	48	31	−30	2	44	2.52	+1.57	0.80	14.0	13	6	11	14	ne.	C. W. Shumaker
Plaza	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.53	2.5	2	18	10	3	nw.	A. A. Johnson
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.30	9.0	5	4	20	7	nw.	C. Frank
Ranger	Slope	2,408	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Hubbard
Steele	Kidder	1,857	19	25.4	+4.7	55	20	−15	1	31	4.12	+3.28	1.60	27.0	13	13	10	8	nw.	H. S. Wood
Taylor	Stark	2,493	.....	25.0[j]	.....	61[e]	27	−27[b]	2	34[e]	1.55	.....	0.80	15.5	4	.....	.....	.....	nw.	H. Leutz.
Towner	McHenry	1,482	14	16.7	+1.1	44	27	−30	1	42	1.60	+0.59	0.50	16.0	6	12	10	9	nw.	B. Bagley
Turtle Lake	McLean	1,899	4	21.4	.....	51	11	−24	2	40	1.50	.....	0.80	15.0	4	7	13	11	nw.	E. J. Jones
University	Grand Forks	830	24	16.8	−6.0	48	31	−26	1	42	1.98	+1.25	0.60	17.3	11	12	6	13	se.	U. S. Weather Bureau
Wahpeton	Richland	962	22	21.5	−5.3	51	29	−26	2	43	1.52	+0.56	0.48	7.9	5	11	5	15	nw.	F. E. Smith
Walhalla	Pembina	966	9	17.5[b]	.....	44	31	−31[e]	1	38[e]	1.30	.....	0.80	13.0	2	13	7	11	w.	I. DeL. Lee
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	10	12.7	.....	44[a]	26	−35	1	46[a]	0.90	.....	0.30	9.0	3	2	20	9	nc.	W. A. Meddaugh
Williston	Williams	1,875	37	22.4	+0.8	51	11	−25	1	35	0.80	+0.12	0.45	0.5	5	4	13	14	se.	U. S. Weather Bureau
Willow City	Bottineau	1,471	24	14.0	−4.1	44	30	−37	1	43	1.30	+0.60	0.40	13.0	8	6	14	11	nw.	M. A. Ostby
Zap	Mercer	1,800	3	23.6	.....	57	11	−30	2	49	1.50	.....	0.83	9.6	9	8	11	12	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	35	20.8	−0.6	49	31	−24	2	35	1.51	+0.37	0.54	7.5	9	16	6	9	se.	U. S. Weather Bureau
Averages	.....	.....	.....	20.3	−2.0	69	27	−45	1	55	1.48	+0.61	1.95	13.5	6	11	9	11	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Postoffice addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for March, 1916.

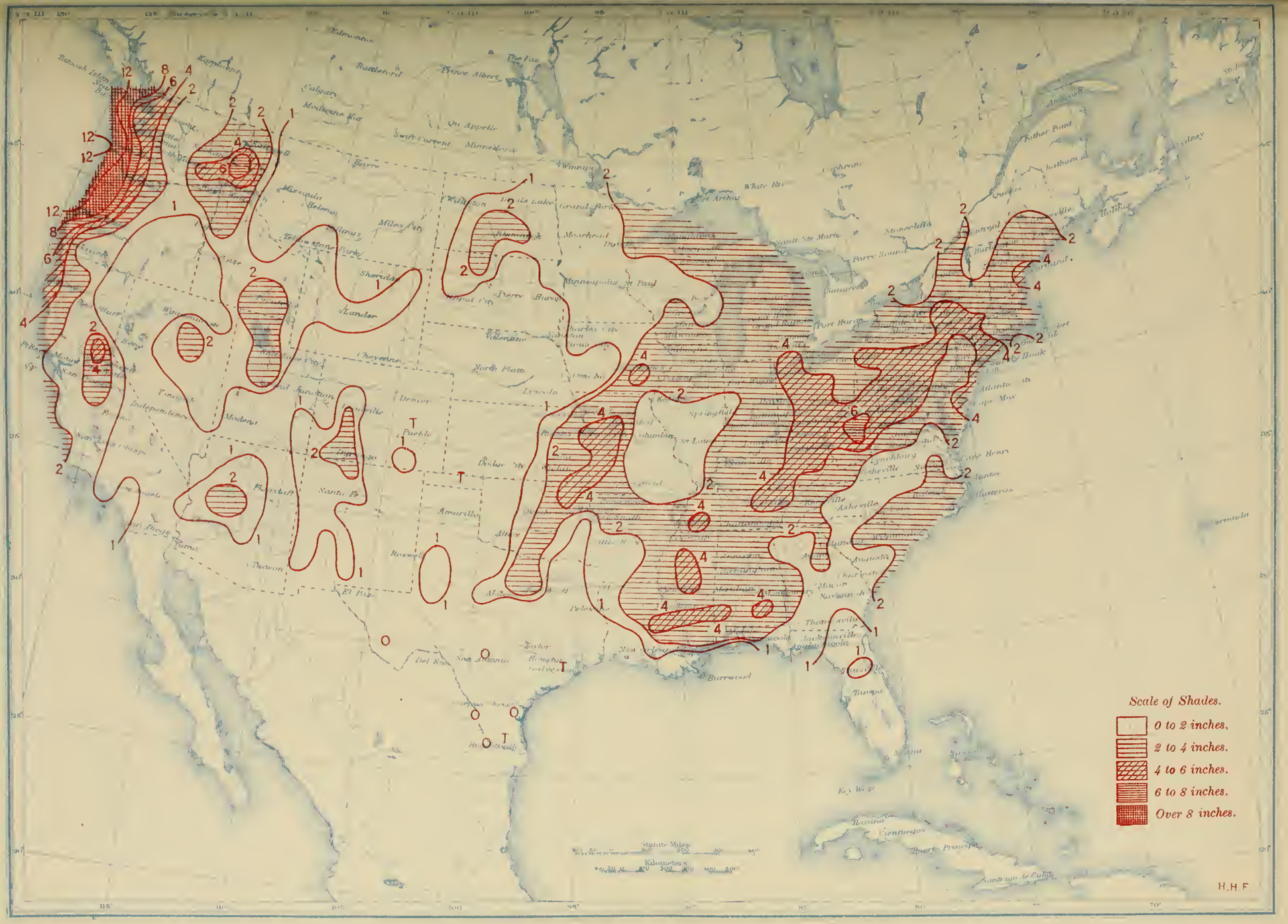
Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red						T.	.20	T.						.10								T.		T.	T.					T.	.02	0.32
Aplin	Knife																																
Ashley	Missouri						.20														.05	.53			.35						.55		1.68
Beach	Lit. Missouri						T.												.23		.03					.03			.10	.15			0.51
Berthold Agency	Missouri						.08															.30			.08					.40			0.86
Bismarck ***	Missouri						.08		.05					T.	T.		T.				.04	1.80			.24				.25	.60	.21		3.27
Bottineau ‖ ‖	Mouse				T.		.15	.02						.07	.02	.02	T.	.01							.16	.01					T.		0.46
Bowbells ‖ ‖	Mouse																																
Bowman	Grand								.06						.15						.02	.17			.08				.03	.07	.07		0.65
Buford	Missouri						.03	T.	T.					T.								.12			.15								0.30
Cando	Sheyenne						.35							.19										.09	.06					.32			1.01
Carson	Heart																				.30	.60			.10				1.00	.20			2.20
Colgate	Sheyenne						.30	.10	T.					.30	.10										.30					.30	.20	.20	1.80
Cooperstown	Sheyenne						.30						.20												T.	T.			T.				0.50
Crosby	Mouse					.45								T.								.60											1.05
Devils Lake ***	Sheyenne				T.	.03	.25	.01			T.			.08	T.	.01						T.			.20	.04			.02	.44	.01		1.09
Dickinson	Heart					.01			.02		.02			.05	T.					T.	.19		.10		.08				.07	.60	.05		1.19
Bonnybrook	Mouse						T.	.15						T.			T.					.40		T.	.10								0.65
Dunseith	Mouse					.40							.25			.02							.15										0.82
Eckman	Mouse					.05	.16	T.						.03	T.	T.	.20	T.				.01		T.	.05	T.				T.	.06		0.56
Edgeley	James					T.								T.								.80								.34	.45		1.59
Energy	Missouri													.02								.54			T.				.02	.40	.50		1.48
Epping	Missouri			.04	.02																	.20	.30										0.56
Fessenden ‖ ‖	James						.30	.20			T.			T.	T.	T	T.	T.					.32		.06	.18				.48	.39		1.93
Forman	Sheyenne						.30															.60									.25		1.15
Fullerton	James	.07						.06							T.							1.95			T.					T.			2.08
Garrison	Missouri						.10							T.	.02		T.					1.55	.10		.21				T.	.85			2.83
Goodall	Missouri						.30															.30	.20										0.80
Grafton ‖ ‖	Red						.12	.44						.15	.11										.21	.05				.15	.05		1.28
Grand Rapids	James																																
Granville	Mouse						.40							T.	T.								.30	T.	.30					.50			1.50
Hannah	Pembina				T.	.10	.60							.30				T.						T.	.10			T.		.20			1.30
Hansboro	Red						.60	.40							.70		.10								.30					.20			2.30
Hettinger	Grand								T.						T.			T.			.03	.43			.04	T.				*	2.54		3.04
Hillsboro	Red						.30	.05	T.					.50	.15										.20					.05	.10	.20	1.55
Howard	Missouri					T.	.30						.02	T.	T.		T.					.70	.30	.25	.23		T.							1.80
Jamestown ‖ ‖	James							.20							.05							.40			.75					.15			2.55
Lakota	Sheyenne	T.			T.	T.	.20	T.		T.	T.			.06	.08							T.			.02	.02				.12	.02	T.	0.52
Lamoine	Missouri													T.								1.40			.60				*	1.00			3.00
Langdon ‖ ‖	Pembina					T.	.20	.50		T.			T.		T.										.10	.20				T.	.25		1.25
Larimore ‖ ‖	Red				.02			.60						.10											.20					.20			1.12
Lisbon ‖ ‖	Sheyenne					.05	T.		.05													T.	.70										0.80
McHenry	James													.02	.37							T.			.11					.35			0.85
McKinney	Mouse						.40						T.	.10		.05		T.			.15													0.70
McLeod	Sheyenne						.45															.60									.10			1.15
Maddock	Sheyenne																								.15					.31	.40			0.86
Mandan ‖ ‖	Missouri	.01					.02			.02											.02	.56	.55			.17				.43	.09	.02		1.89
Manfred	Sheyenne						.40	T.						T.	.07		T.					.40			.30	.60				.70	.10			2.57
Manning	Knife																																
Marmarth	Lit. Missouri	T.					T.	.06	.03		.31				.09						.01	.07		T.	.20				T.	*	.25		1.02
Marstonmoor	James						.20	T.	T.					T.	T.		T.				.40	T.			T.	.10				.10	.20	T.		1.00
Mayville	Red						.35						.30		.15			.04							.45	.15					.60	.33		2.37
Melville	James						.60															.40			*					.40	.50	.20		2.10
Milnor	Red						.50	.20	T.						T.							.85	.25		.10						.10			2.00
Minot ‖ ‖	Mouse						.35								T.	T.	T.	T.					.60			T.					.40			1.35
Minto	Red						.51	.08						.45											.34					.33	T.			1.71
Mott	Cannon Ball								.04													.62		.07	.31					1.14	.43			2.61
Napoleon ‖ ‖	Missouri						.15		.05												.05	.25	1.00		.20					.05	.50	.70		2.95
New England	Cannon Ball								.12																.40				.10	.30	1.00			1.92
New Salem	Heart	.05					.03		.04					T.								1.30	.80	T.	.20	.15			T.	.15	.10			2.82
Orange	Cannon Ball																					*	.55							.50	.30			1.35
Oriska	Sheyenne																																
Park River	Red						.25				T.			.25	.04	T.									.12					.15	T.			0.81
Pembina ‖ ‖	Red						.60	.80						.20	.20						.04	.10			.08	.18		.04	.10	.08	.04	.06		2.52
Plaza	Missouri																					*	.53							T.				0.53
Power	Sheyenne																																
Powers Lake	Missouri		.20	T.	.10											.10						.30	.20											0.90
Ranger	Lit. Missouri																																
Steele	Missouri	.10				.15	.20	.08	T.		.20		.01	.02							.03	1.60	.21	.30						.55	.64			4.12
Taylor	Heart					T.							T.									.25							.30	.80	.20			1.55
Towner	Mouse						.40							.30			.10					T.	T.		.10					.50	.20			1.60
Turtle Lake	Missouri						.10															.50			T.				T.	.80	.10			1.50
University	Red				.02	T.	.31				T.		.03	.36	.08		.03							.20	.40	.02				.46	.07			1.98
Wahpeton ‖ ‖	Red	T.	T.				.31	T.		T.		T.			T.	T.	T.						.48		.31	T.					.25	.16		1.52
Walhalla	Pembina						.80							.50																T.				1.30
Washburn	Missouri																																
Westhope	Monse					*	.60										.30																	0.90
Williston ***	Missouri		T.			.08	.04						T.	T.							T.	.23		.20	.25		T.							0.80
Willow City	Mouse					T.	.40							.10	.10	T.	.10	.10							.20	.10				.20				1.30
Zap	Knife						.04		T.					.02	.01						.10	.83			.06				.07	.29	.08			1.50
Moorhead, Minn ***	Red					T.	.28	.05		T.				.13	.03	.04						.12		.10	.22					.54				1.51

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	0	8	20	21	24	26	18	37	31	21	43	36	31	23	33	19	36	36	33	34	31	26	35	34	34	35	45	48	34	34	51	30.2
	Minimum	-18	-20	-18	- 5	1	16	18	- 8	1	- 3	1	25	18	14	- 3	- 1	0	18	26	12	26	8	8	21	23	18	22	29	22	23	32	9.9
Aplin	Maximum																																
	Minimum																																
Ashley	Maximum	12	4	2	22	32	24	22	30	41	29	55	53	35	30	32	29	48	43	48	56	43	28	38	36	38	47	62	50	38	36	41	35.6
	Minimum	-14	-22	-14	- 1	9	11	2	0	26	11	23	29	22	17	8	14	23	20	22	30	27	8	12	26	15	20	28	32	30	32	35	15.2
Beach	Maximum	2	15	26	37	25	25	24	45	42	49	62	50	39	28	36	38	52	46	65	64	50	40	36	34	47	65	58	45	38	41	41	40.8
	Minimum	-16	-20	-15	11	5	10	10	8	26	23	32	30	20	10	18	20	22	18	38	42	16	20	18	12	20	35	35	31	23	23	23	17.7
Berthold Agency	Maximum	- 9	4	15	23	27	23	22	41	42	41	56	47	33	25	31	30	50	42	51	52	42	23	31	31	35	41	56	49	36	39	46	34.7
	Minimum	-19	-25	-14	2	12	9	3	2	21	12	32	30	16	9	2	14	23	16	23	30	19	6	13	17	1	19	30	31	29	30	20	13.3
Bismarck	Maximum	0	5	14	21	29	22	25	42	42	39	59	48	34	22	31	27	55	44	54	58	37	25	34	34	32	36	56	42	32	35	42	34.7
	Minimum	-17	-23	-11	7	13	9	8	8	16	12	31	28	15	13	6	14	23	18	25	36	14	6	12	20	13	15	32	30	29	31	22	14.7
Bottineau §§	Maximum	- 8	- 3	- 6	11	19	15	18	39	30	27	39	34	21	16	10	17	37	29	35	37	27	23	29	24	26	32	44	34	34	42	36	24.8
	Minimum	-27	-31	-29	-20	-12	9	4	- 6	12	1	4	21	11	4	-15	-14	0	5	6	21	23	1	3	14	4	5	14	27	28	29	15	3.5
Bowbells §§	Maximum																																
	Minimum																																
Carson	Maximum																																
	Minimum																																
Colgate	Maximum	1	6	15	19	24	24	22	28	35	20	37	34	30	26	22	17	40	35	38	42	38	23	37	35	31	34	45	49	35	34	47	29.8
	Minimum	-16	-19	- 7	7	5	15	13	4	14	- 2	15	21	17	10	- 1	- 2	8	17	18	30	23	8	15	30	20	14	26	30	30	32	29	13.0
Crosby	Maximum	- 6	- 1	6	10	19	38	37	33	40	40	——	——	36	24	21	——	36	32	38	36	34	21	22	22	21	30	47	40	38	42	40	°28.4
	Minimum	-25	-25	-30	-11	10	1	16	8	29	36	——	——	- 9	3	4	——	15	13	20	24	1	1	15	15	15	14	12	26	14	12	12	° 7.7
Devils Lake	Maximum	4	2	9	13	20	18	16	34	33	27	32	31	20	15	13	14	38	31	38	36	31	22	32	30	23	30	46	40	32	35	43	25.8
	Minimum	-27	-23	-11	- 5	4	12	- 1	- 1	4	- 3	26	16	13	- 3	- 6	- 2	9	10	16	27	10	4	14	20	7	4	19	31	30	32	25	8.1
Dickinson	Maximum	5	5	17	28	26	23	31	45	40	36	45	59	53	34	37	37	55	49	63	63	57	36	34	35	33	56	62	56	32	35	49	39.9
	Minimum	-19	-29	-19	-10	12	8	6	8	28	19	25	30	31	9	8	18	21	16	24	34	34	11	11	12	12	24	26	32	29	20	18	14.8
Donnybrook	Maximum	- 7	0	10	20	20	16	15	37	36	32	42	38	26	18	18	17	36	33	40	39	35	19	25	26	32	36	44	40	31	39	41	27.5
	Minimum	-27	-23	-23	-11	4	8	- 3	5	13	2	26	24	6	- 5	- 7	0	12	13	18	25	10	- 5	12	14	4	9	23	28	34	21	22	7.1
Dunseith	Maximum	2	4	8	10	15	18	34	16	35	16	34	18	28	21	36	32	34	40	38	34	24	28	25	30	46	38	33	40	32	28	33	26.8
	Minimum	-30	-14	-10	- 2	8	8	- 4	2	5	36	18	9	5	- 6	4	8	8	30	9	- 2	8	18	9	4	24	29	26	27	24	25	21	9.6
Edgeley	Maximum	14	6	11	21	30	23	22	30	41	30	50	46	30	29	28	27	50	46	47	55	46	28	35	33	31	33	52	51	35	34	45	34.2
	Minimum	-14	-20	- 1	-5	9	13	8	0	25	11	23	26	21	16	6	11	21	21	20	29	28	7	3	31	12	7	20	30	32	30	29	14.8
Fessenden §§	Maximum	- 3	7	18	23	24	17	19	36	36	36	40	36	29	19	21	26	45	38	43	43	30	23	32	32	29	35	47	37	32	36	43	30.0
	Minimum	-20	-20	-13	- 8	0	13	8	- 3	18	3	5	29	15	4	0	0	4	16	22	30	29	3	10	22	5	5	18	31	28	27	23	9.8
Forman	Maximum	3	11	19	23	26	26	21	30	38	24	44	41	32	32	29	27	46	42	46	53	49	35	36	36	34	40	51	54	53	44	49	35.4
	Minimum	-10	-20	- 8	4	15	16	10	- 1	22	4	19	28	22	19	15	15	18	24	22	32	29	10	7	32	22	17	28	30	32	33	32	16.5
Fullerton	Maximum	1	7	16	21	31	25	25	29	41	28	39	44	31	27	30	26	47	44	47	55	32	30	39	35	32	56	51	51	45	40	42	34.4
	Minimum	-11	-19	- 8	5	15	10	8	1	5	9	23	30	22	17	10	14	22	23	23	31	28	9	8	32	20	20	31	36	31	33	31	16.6
Garrison	Maximum	- 4	0	11	16	22	20	17	41	39	38	48	39	30	21	22	29	43	40	47	46	40	19	30	28	33	35	49	43	32	34	40	30.6
	Minimum	-22	-27	-14	- 3	6	9	1	- 1	20	3	31	28	16	8	- 3	9	23	15	22	30	17	0	11	18	1	18	18	18	27	22	10.3
Grafton §§	Maximum	0	8	12	17	20	26	18	36	15	26	34	27	24	20	18	12	50	25	33	37	23	19	33	35	28	33	37	40	37	39	42	26.6
	Minimum	-27	-28	-22	- 6	- 3	8	11	-12	2	- 5	5	20	11	- 4	- 8	-18	- 5	5	- 4	12	18	- 4	4	17	16	- 6	4	26	29	30	25	3.6
Granville	Maximum	- 2	2	10	15	20	15	18	38	36	38	37	38	24	18	30	18	22	35	43	20	38	32	30	30	30	30	47	46	32	35	40	27.9
	Minimum	-24	-23	-14	- 8	5	5	7	- 2	0	5	28	18	0	4	15	8	18	15	18	0	27	12	15	15	8	12	22	30	28	26	20	9.4
Hannah	Maximum	——	——	——	——	18	18	15	30	28	15	32	28	23	15	16	9	34	21	32	33	27	26	29	31	26	24	38	35	33	40	39	d26.6
	Minimum	——	——	——	——	- 5	15	5	-12	13	-10	13	22	9	3	- 3	-10	0	8	- 2	11	8	- 4	10	12	8	- 7	13	28	29	26	19	d 7.0
Hansboro	Maximum	- 5	5	10	14	18	15	16	33	36	28	32	35	18	15	20	20	36	30	35	35	30	18	28	28	22	27	38	37	33	38	36	25.2
	Minimum	-30	-27	-17	-10	- 2	10	7	4	- 2	10	16	16	8	- 4	- 8	- 6	10	7	5	18	6	- 5	8	19	8	5	12	25	25	28	19	5.0
Hettinger	Maximum	- 2	10	14	21	32	33	29	48	22	49	61	59	41	31	38	60	38	41	61	65	50	31	38	31	45	64	67	54	37	31	43	40.1
	Minimum	-12	-23	-16	-16	- 2	12	11	11	12	21	34	31	20	12	12	21	23	18	24	33	21	15	23	15	12	26	33	37	27	24	22	15.5
Howard	Maximum	-14	-16	- 6	12	20	15	16	36	34	33	37	33	28	19	17	22	30	30	34	32	30	20	21	20	30	39	38	38	33	38	38	24.4
	Minimum	-30	-33	-23	-13	- 6	- 6	- 3	3	10	10	26	22	8	- 5	-10	- 5	10	4	14	21	11	10	14	1	20	28	25	25	22	22	22	6.6
Jamestown §§	Maximum	0	8	17	10	26	22	23	36	40	38	43	40	30	23	24	26	44	39	45	51	32	28	34	34	25	34	54	43	37	34	33	31.4
	Minimum	-15	-20	-18	- 8	9	11	8	2	8	6	8	30	20	15	6	4	7	20	20	26	28	10	9	23	16	10	21	29	20	20	22	11.2
Lakota	Maximum	- 9	- 2	6	10	18	18	18	27	30	——	30	29	30	15	10	8	32	28	34	34	20	27	30	30	22	30	41	35	32	32	40	p23.5
	Minimum	-24	-26	-13	- 4	- 3	14	1	-10	5	——	5	18	12	2	- 8	- 5	4	7	10	20	5	3	20	22	12	5	5	32	28	28	32	a 6.6
Lamoine	Maximum	- 4	- 2	12	18	24	——	19	35	34	29	45	43	27	——	23	23	41	35	46	45	31	16	29	32	26	30	46	38	30	40	45	b29.5
	Minimum	-20	-28	-13	- 2	4	——	3	- 2	14	5	20	25	17	5	- 3	5	17	11	21	31	16	1	9	20	2	8	20	27	28	24	19	a 9.5
Langdon	Maximum	- 5	3	9	14	24	20	17	32	17	26	34	27	25	22	15	15	34	27	38	32	17	19	29	27	26	31	37	34	37	39	40	24.6
	Minimum	-36	-36	-33	-28	- 2	7	7	-10	5	- 8	- 6	25	8	- 2	- 5	-12	- 5	1	0	17	15	- 3	- 1	9	9	- 4	10	24	29	28	20	0.9
Larimore §§	Maximum	0	7	12	16	22	22	18	34	36	35	35	32	34	18	9	14	34	19	34	40	21	23	34	32	30	32	42	40	35	41	48	27.1
	Minimum	-23	-23	-17	- 6	1	11	10	-15	12	- 5	5	25	14	18	9	-12	- 5	-10	9	10	20	2	0	21	18	6	13	31	30	30	29	6.7
Lisbon §§	Maximum	10	18	16	20	28	34	36	32	40	38	35	37	39	37	40	38	42	45	45	48	34	34	38	39	42	36	40	45	42	43	45	36.1
	Minimum	-12	-19	- 5	- 8	2	12	10	- 5	10	6	12	18	24	20	19	19	24	28	30	34	30	17	19	22	26	28	28	31	30	22	18	15.8
McHenry	Maximum	- 4	5	12	23	20	17	33	34	24	34	33	34	26	17	14	15	34	37	39	39	33	26	33	33	25	32	45	39	33	35	45	27.9
	Minimum	-23	-26	-12	5	11	3	- 3	12	- 5	19	17	20	14	6	- 8	0	6	8	15	28	17	6	16	23	10	9	23	31	28	32	25	9.9
McKinney	Maximum	0	0	10	15	20	26	16	40	47	34	39	37	27	12	16	15	39	40	41	38	35	25	27	27	30	47	31	40	35	40	40	28.9
	Minimum	-34	-25	-15	-12	0	0	- 4	0	27	0	0	25	2	-14	-10	0	10	10	10	20	0	- 2	-12	11	4	20	11	31	22	24	19	4.6
Maddock	Maximum	- 4	3	11	16	22	20	17	46	36	27	34	33	25	17	17	16	40	32	42	41	36	24	31	32	24	31	46	42	33	36	40	27.9
	Minimum	-25	-25	-11	- 5	5	11	9	- 3	14	2	22	23	14	4	5	0	9	11	19	27	18	4	16	23	4	1	21	32	29	29	20	9.5
Marmarth	Maximum	3	5	22	41	41	33	23	46	51	43	60	59	47	26	40	47	57	——	61	63	54	42	30	26	41	62	61	46	31	33	46	a41.3
	Minimum	- 9	-15	-15	14	22	13	9	14	30	24	30	34	26	10	5	25	27	——	24	35	26	17	23	15	12	25	30	29	27	25	15	a18.2
Minot §§	Maximum	- 3	2	18	15	23	15	21	42	35	39	47	36	31	20	11	28	42	37	48	40	33	29	30	25	30	40	49	35	32	36	42	29.9
	Minimum	-22	-23	-20	-10	- 6	11	6	1	21	5	8	31	12	5	- 1	- 2	4	17	12	28	29	2	1	18	8	7	20	30	23	23	22	8.4
Mott	Maximum	- 1	- 5	5	15	23	23	26	36	42	40	48	53	38	33	47	53	60	58	60	59	38	29	36	30	33	44	63	55	37	30	42	37.1
	Minimum	-17	-28	-19	- 5	5	11	20	24	25	27	34	31	19	10	18	21	25	24	28	25	10	16	19	13	8	22	26	28	25	27	21	15.9
Napoleon §§	Maximum	- 3	- 4	13	22	31	20	21	36	38	36	56	43	35	23	31	36	51	46	50	53	30	30	35	33	38	43	60	43	34	33	41	33.4
	Minimum	-21	-27	-25	3	5	12	4	- 4	13	6	8	30	23	12	1	3	10	16	18	28	30	0	5	18	9	10	27	29	28	27	18	10.2
New England	Maximum	25	15	15	32	23	25	25	46	43	48	52	59	38	36	34	40	57	54	61	64	52	48	42	38	42	62	63	51	43	32	42	42.2
	Minimum	- 4	-24	-24	10	12	10	7	9	31	30	26	25	18	16	10	20	18	20	23	26	20	14	18	16	11	23	23	30	27	27	24	15.9
New Salem	Maximum	- 5	- 3	8	24	27	24	22	43	36	43	58	47	22	28	33	29	53	44	54	58	40	30	29	30	33	44	57	43	32	36	41	34.2
	Minimum	-20	-28	-16	4	6	4	1	3	8	20	30	28	9	7	2	13	22	16	17	40	15	0	10	15	7	28	32	27	26	17	16	11.6
Orange	Maximum	0	10	15	28	25	30	27	45	44	38	61	55	44	28	33	35	62	56	58	65	45	28	36	32	36	60	69	49	33	31	40	39.4
	Minimum	-22	-25	-19	10	12	9	3	6	22	19	30	32	21	11	10	10	22	18	32	36	25	11	19	18	9	25	37	26	28	29	25	15.8
Oriska	Maximum																																
	Minimum																																
Park River	Maximum	1	5	11	15	19	23	20	28	35	17	33	34	21	18	15	8	35	35	34	36	32	——	31	27	27	26	41	42	33	36	44	a26.1
	Minimum	-23	-21	-11	- 1	2	16	13	- 1	- 4	- 4	14	7	11	0	- 3	-10	2	9	10	18	13	2	——	17	10	4	13	33	30	32	30	a 6.9
Pembina §§	Maximum	-10	5	8	15	28	26	20	26	15	20	28	24	26	20	12	20	28	15	36	34	22	26	34	36	28	34	38	39	34	40	48	25.0
	Minimum	-24	-30	-16	-10	0	15	12	5	12	- 2	5	12	10	2	0	-15	8	- 5	- 8	10	8	5	10	22	12	5	12	26	28	26	28	5.3
Power	Maximum																																
	Minimum																																
Towner	Maximum	- 8	- 4	9	9	20	18	15	37	36	26	33	33	24	14	16	13	38	36	37	36	33	23	29	30	27	31	44	42	32	41	35	26.0
	Minimum	-30	-28	-18	-10	0	11	6	- 5	11	2	12	19	13	3	-11	- 3	11	8	15	23	15	3	15	21	7	10	23	30	28	30	21	7.4
Turtle Lake	Maximum	- 7	0	12	18	23	20	17	45	39	39	51	41	30	20	26	25	46	39	46	47	40	19	29	32	33	32	49	45	32	34	40	31.0
	Minimum	-20	-24	-10	- 1	5	5	5	5	18	6	29	30	15	8	0	0	24	16	23	31	17	0	10	20	6	16	26	30	27	27	21	11.8
University	Maximum	- 4	17	13	14	24	25	20	27	36	15	32	32	26	22	19	12	34	23	34	35	31	16	39	33	26	30	38	39	36	35	48	26.7
	Minimum	-26	-25	- 9	- 2	- 5	19	0	- 6	3	- 6	13	17	16	- 4	- 6	-18	9	3	1	25	16	3	13	24	10	5	16	32	31	33	30	6.8
Wahpeton §§	Maximum	0	10	20	15	27	30	22	37	40	26	38	43	32	21	32	26	39	30	37	41	34	26	36	37	31	40	45	48	51	40	52	32.5
	Minimum	-16	-26	-21	- 5	- 4	20	10	- 6	2	4	0	8	17	12	5	12	12	16	18	25	25	9	8	18	25	17	22	30	32	34	31	10.5
Washburn	Maximum																																
	Minimum																																
Westhope	Maximum	- 7	- 2	16	18	17	13	20	40	24	27	28	27	12	15	10	18	27	33	36	34	25	21	27	23	27	44	41	30	31	36	——	a23.7
	Minimum	-35	-32	-22	-17	-10	- 5	1	- 6	10	4	9	12	10	- 7	-18	-11	0	10	6	11	14	- 3	6	14	1	6	19	28	18	20	20	1.7
Williston	Maximum	- 8	- 2	21	21	22	17	18	39	38	38	51	40	32	25	29	31	41	40	45	40	38	28	28	21	32	45	50	39	33	35	46	31.4
	Minimum	-25	-22	-14	- 2	13	4	4	18	15	15	32	28	7	0	2	15	19	16	28	31	15	10	17	14	12	24	35	29	26	24	26	13.4
Willow City	Maximum	-10	- 1	6	8	20	15	13	35	29	34	34	32	17	10	9	13	36	36	42	37	21	24	28	24	22	30	42	39	32	34	35	24.4
	Minimum	-37	-35	-23	-16	6	10	3	- 8	10	0	11	17	10	1	-17	- 3	8	- 2	0	17	18	- 1	10	20	- 1	- 1	13	28	25	29	17	3.5

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a, 1 day missing. b, 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
H.H.F.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

APRIL, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MAY 29, 1916.

Departure of the Mean Temperature from the Normal, April, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXVI. Bismarck, N. D., April, 1916. No. 4.

GENERAL SUMMARY.

The weather conditions were generally unfavorable over the entire State. While the temperature only averaged two degrees below the normal, the night temperatures were unseasonably low, being below zero in several parts of the Section. During the past twenty-five years there were but six colder Aprils than the one in question. The precipitation was nearly the normal, and was quite evenly distributed throughout the month. The geographical distribution, however, was more uneven. As a result of the frequent rains, farm work did not make rapid progress, and at the close of the month not much seeding was done, except in the eastern part of the State. Vegetation was quite backward, necessitating the feeding of roughage to live-stock. The sunshine was nearly the normal, and there was more than the usual wind movement. Considerable uneasiness obtained during the first portion of the month from the high stage of water in the various rivers and small streams.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.03 inches. The highest was 30.56 inches at Bismarck, Burleigh County, on the 8th; the lowest was 29.45 inches at Devils Lake, Ramsey County, on the 28th.

TEMPERATURE.

The mean temperature for the State was 39.2°, or 2.2° below the normal, and 11.1° lower than the mean for April, 1915. The highest mean reported was 43.2° at Forman, Sargent County; the lowest was 33.6° at Hannah, Cavalier County. The highest temperature reported was 79° at Bowbells, Burke County, on the 27th, and at Oriska, Barnes County, on the 28th; the lowest was −6° at Hansboro, Towner County, on the 6th, and at Hannah, Cavalier County, on the 8th. The greatest monthly range of temperature was 77° at Bowbells, Burke County. The greatest daily range of temperature was 51° at Forman, Sargent County, on the 14th. Usually the highest temperature occurred on the 14th or 28th, and the lowest on the 6th or 8th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 74 per cent, the average at 7 a. m. being 84 per cent, and at 7 p. m. 62 per cent.

PRECIPITATION.

The average precipitation for the State was 1.40 inches, or 0.07 inch below the normal, and 0.32 inch more than the average for April, 1915. The greatest monthly amount reported was 3.35 inches at Hillsboro, Traill County; the least was a trace at Lamoine, Kidder County. The greatest amount recorded in any twenty-four consecutive hours was 1.95 inches at Dickinson, Stark County, on the 19th. Only a small portion of this precipitation occurred in the form of snow, the average fall for the State being 2.9 inches. The heaviest fall of snow reported was 13.0 inches at Powers Lake, Burke County. The average number of days with 0.01 inch or more of precipitation was 5. Although the precipitation was scattered throughout the month quite evenly, there were three stormy periods, 4th to 7th, inclusive, 14th to 21st, inclusive, and the 29th-30th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 11.0 miles. The greatest wind movement was 9,241 miles at Devils Lake, an average of 12.8 miles per hour; the least was 6,750 miles at Williston, an average of 9.4 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 48 miles per hour from the north at University on the 16th.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 10, partly cloudy days 10, and cloudy days 10.

ERRATA, MARCH, 1916.

Page 20: Total snowfall at Carson should be 21.0; at Donnybrook, 5.5, and at Pembina, 20.0. Total precipitation at Wahpeton should be 1.51.
Page 21: Total precipitation at Wahpeton should be 1.51.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−3.8	75	− 2	2.65	+1.18	7	10	6	14	ne.
1893...	34.3	−7.1	77	− 8	1.73	+1.26	6	7	9	14	nw.
1894...	42.8	+1.4	92	12	3.06	+1.49	9	7	9	12	se.
1895...	49.6	+8.2	87	10	2.23	+0.76	5	13	8	9	nw.
1896...	40.1	−1.3	92	2	4.37	+2.90	9	9	8	13	nw.
1897...	40.8	−0.6	93	7	1.01	−0.46	5	12	8	10	nw.
1898...	41.9	+0.5	87	− 4	1.38	−0.09	5	14	9	7	nw.
1899...	38.0	−3.4	86	−22	1.36	−0.11	6	12	10	8	nw.
1900...	49.3	+7.9	93	11	0.75	−0.72	3	20	6	4	se.
1901...	44.5	+3.1	92	10	0.98	−0.49	4	12	9	9	se.
1902...	40.2	−1.2	87	− 2	1.06	−0.41	3	12	8	10	nw.
1903...	42.5	+1.1	83	8	1.23	−0.24	5	16	6	8	nw.
1904...	37.4	−4.0	91	2	1.70	+0.23	5	13	5	12	se.
1905...	40.2	−1.2	83	3	0.63	−0.84	3	15	8	7	nw.
1906...	46.7	+5.3	88	8	1.50	+0.03	5	14	7	9	nw.
1907...	31.9	−9.5	80	− 6	0.57	−0.90	4	10	9	11	nw.
1908...	43.9	+2.5	91	−19	1.47	0.00	5	16	6	8	nw.
1909...	34.2	−7.2	80	3	0.81	−0.66	6	10	9	11	nw.
1910...	48.0	+6.6	96	4	1.30	−0.17	4	16	8	6	nw.
1911...	41.5	+0.1	90	− 5	1.30	−0.17	5	15	6	9	nw.
1912...	44.4	+3.0	88	2	2.34	+0.87	7	14	8	8	nw.
1913...	46.8	+5.4	94	11	0.71	−0.76	4	16	6	8	se.
1914...	40.9	−0.5	84	2	1.66	+0.19	6	9	10	11	nw.
1915...	50.3	+9.9	99	5	1.08	−0.39	5	15	8	7	nw.
1916...	39.2	−2.2	79	− 6	1.40	−0.07	5	10	10	10	nw.

Climatological Data for April, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With 01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	20	38.4	−3.7	64	†14	6	6	45	2.90	+0.97	2.00	.....	7	13	6	11	n.	E. T. Carley
Aplin	Oliver	1,900	9	.....	.....	.....	.....	.....	.....	.....	2.12	.....	0.99	.....	5	.....	.....	.....	.....	J. B. Hagelbarger
Ashley	McIntosh	2,001	19	40.5	−1.2	69	28	12	6	37	1.28	−0.81	0.70	2.0	4	14	8	8	nw.	R. C. Miles
Beach	Golden Valley	2,576	10	41.2	.....	76	14	15	15	45	0.89	.....	0.50	.....	9	14	10	6	nw.	D. J. Steiner
Berthold Agency††	McLean	2,082	22	40.1	−3.4	76	14	13	8	45	1.74	+0.66	1.04	.....	3	10	7	13	nw.	C. L. Hall
Bismarck	Burleigh	1,674	42	41.0	−1.6	73	14	16	6	41	0.65	−1.23	0.44	0.1	8	10	9	11	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	24	36.6	−2.5	71	14	6	5	39	0.93	+0.10	0.55	.....	6	8	8	14	se.	H. F. Steinmeier
Bowbells	Burke	1,958	4	36.2	.....	79	27	2	5	47	1.26	.....	0.70	.....	5	12	1	17	.....	G. H. Phelps
Bowman	Bowman	.....	2	41.0	.....	75	14	17	8	49	2.27	.....	1.45	.....	5	12	1	17	.....	L. S. Diehl
Buford	Williams	1,944	37	41.6	−1.1	74	27	12	5	45	0.26	−0.82	0.18	.....	5	10	14	6	n.	P. Elmore
Cando	Towner	1,488	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Judd
Carson	Morton	.....	4	.....	.....	.....	.....	.....	.....	.....	2.16	.....	1.60	1.2	7	10	17	3	nw.	J. W. Evens
Colgate	Steele	1,177	2	40.0	.....	64	15	7	6	34	2.51	.....	1.53	8.0	6	6	8	16	n.	S. N. Grimwood
Cooperstrwn	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.30	3.0	3	11	12	7	nw.	S. Friswold
Crosby	Divide	1,954	9	37.8[g]	.....	70[g]	27	10[g]	5	44[g]	1.14	.....	0.51	.....	3	13	3	7	.....	H. G. Anderson
Devils Lake	Ramsey	1,482	12	37.8	−0.4	70	14	10	5	35	1.09	−0.94	0.51	4.3	11	7	8	15	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	24	41.0	−1.7	74	14	14	8	43	2.71	+1.49	1.95	4.7	3	17	2	11	nw.	L. R. Waldron
Donnybrook	Ward	1,760	17	39.6[b]	+0.2	72[b]	14	9[b]	8	42[b]	1.35	+0.50	0.58	.....	3	.....	.....	.....	nw.	Geo. Michel
Dunseith	Rolette	1,682	20	37.7	−2.7	70	22	2	5	42	0.35	−0.38	0.08	.....	8	9	10	11	nw.	J. G. Lamont
Eckman	Bottineau	.....	11	38.5[a]	.....	73[a]	14	8[a]	5	42[a]	1.20	.....	0.64	T.	5	.....	.....	.....	nw.	J. Nussbaum
Edgeley	LaMoure	1,468	15	41.4	−0.6	70	28	13	6	39	1.41	−0.38	0.87	.....	4	4	9	17	nw.	O. A. Thompson
Energy ††	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	0.84	.....	0.41	2.0	4	6	16	8	nw.	N. W. Solenberger
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.72	9.0	5	15	6	9	w.	M. E. Uggen
Fessenden	Wells	1,610	4	38.0	.....	72	14	13	† 5	41	1.01	.....	0.39	3.8	7	10	13	7	nw.	G. T. Seymour
Forman	Sargent	1,249	24	43.2[a]	−0.7	72[a]	28	12[a]	6	51[a]	3.05	+0.84	1.00	2.5	8	.....	.....	.....	nw.	A. Maltby
Fullerton	Dickey	1,439	18	41.0	−1.3	70	28	13	6	40	1.26	−0.65	0.56	1.4	5	7	9	14	nw.	F. O. Alin
Garrison	McLean	1,901	21	39.8	−2.6	72	27	13	8	45	1.20	+0.14	0.26	2.0	7	11	14	5	nw.	G. L. Robinson
Goodall	McKenzie	2,200	2	39.4	.....	75	14	15	* 6	46	1.65	.....	0.60	T.	5	12	8	10	nw.	C. H. Layman
Grafton	Walsh	827	24	37.6	−2.4	68	14	2	6	36	0.54	−0.97	0.28	T.	4	14	8	8	nw.	A. R. T. Wylie
Grand Rapids	LaMoure	1,321	4	40.6	.....	70	14	18	8	45	1.00	.....	0.50	.....	3	12	7	11	n.	G. H. Leick
Granville	McHenry	1,504	9	39.3	.....	71	14	10	5	40	1.20	.....	0.72	0.2	4	11	13	6	nw.	W. A. Christianson
Hannah	Cavalier	1,568	11	33.6	.....	67	28	− 6	8	37	0.91	.....	0.34	4.0	6	17	2	11	nw.	J. Moffatt
Hansboro	Towner	1,597	8	35.6	.....	67	28	− 6	6	34	0.72	.....	0.40	6.0	4	15	11	4	nw.	C. E. Blackorby
Hettinger	Adams	2,253	8	40.8	.....	71	14	10	8	42	1.85	.....	1.75	.....	3	14	6	10	nw.	A. J. Ogaard
Hillsboro	Traill	901	10	40.1	.....	65	28	8	6	32	3.35	.....	1.74	10.0	9	9	13	8	nw.	F. E. Mayall
Howard	Williams	2,275	7	36.7	.....	73	14	4	5	46	1.09	.....	0.70	6.2	5	6	10	14	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	24	40.2	−2.3	70	28	13	† 2	42	0.95	−0.84	0.40	3.0	6	6	11	13	nw.	S. Calvelage
Lakota	Nelson	1,579	15	36.2	−2.4	65	14	10	† 6	37	2.04	+0.40	1.10	5.8	9	8	18	4	nw.	C. R. Pettes
Lamoine	Kidder	1,936	8	37.0	.....	70	14	6	8	41	T.	.....	T.	T.	0	15	2	13	nw.	E. V. Virgin
Langdon	Cavalier	1,615	20	34.1	.....	66	28	1	5	36	1.22	.....	0.60	.....	7	15	4	11	sw.	R. T. Burke
Larimore	Grand Forks	1,134	21	39.1	−1.0	69	11	3	6	38	1.46	−0.06	0.84	3.0	6	9	10	11	n.	G. G. Graham
Lisbon	Ransom	1,091	12	41.9	+0.6	70	10	10	6	44	1.75	−0.34	1.00	2.5	6	11	2	17	nw.	W. S. Adams
McHenry	Foster	1,509	6	38.2	.....	68	14	11	† 6	38	1.45	.....	0.80	6.0	3	18	7	5	n.	P. E. Trudeau
McKinney	Renville	1,640	22	39.4	−1.1	73	14	8	5	41	0.10	−0.85	0.05	1.0	2	6	17	7	nw.	N. P. Swenson
McLeod	Ransom	1,075	4	42.3	.....	73	28	16	8	46	2.42	.....	0.70	3.5	8	6	14	10	nw.	E. W. Griggs
Maddock	Benson	.....	1	39.6	.....	70	†14	9	8	39	0.74	.....	0.45	.....	3	12	0	18	sw.	W. M. Jackson
Mandan	Morton	1,644	2	41.3	.....	73[a]	14	15	† 6	40[a]	0.93	.....	0.78	.....	4	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	39.8	−1.0	72	14	13	8	40	1.25	+0.01	0.62	5.0	5	15	7	8	nw.	P. B. Anderson
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzlaff
Marmarth	Slope	.....	7	40.4	.....	71	14	16	8	45	1.20	.....	0.94	2.3	8	8	10	12	nw.	S. P. Grane
Marstonmoor	Stutsman	1,945	7	37.8	.....	71	14	10	6	47	0.52	.....	0.40	0.2	3	9	11	9	nw.	H. H. McCumber
Mayville	Traill	975	20	41.0	−1.7	67	†14	8	6	36	2.50	+0.83	1.20	.....	8	13	5	12	n.	W. C. Gould
Melville	Foster	1,590	18	37.4[b]	−2.5	60[b]	†14	10[b]	6	28[b]	1.23	+0.21	0.42	3.0	4	.....	.....	.....	nw.	J. P. Kidder
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	2.08	.....	0.57	4.1	8	10	8	12	n.	Hj. Edman
Minot	Ward	1,557	20	39.3	−2.2	76	28	14	8	41	1.61	+0.35	0.90	3.0	3	7	20	3	nw.	W. I. Faris
Minto	Walsh	820	23	39.6	−1.0	69	14	.....	.....	37	0.54	−1.07	0.13	.....	9	8	12	10	n.	C. M. Evans
Mott	Hettinger	2,424	9	40.1	.....	77	13	12	7	46	2.56	.....	1.92	2.5	8	8	10	12	nw.	O. H. Opland
Napoleon	Logan	1,955	24	38.8	−2.6	70	14	10	6	41	1.05	−0.69	0.55	3.0	10	8	4	18	n.	C. J. Hoof
New England	Hettinger	2,400	22	39.5	−3.0	73	14	13	6	44	1.65	+0.67	1.08	2.5	4	7	17	6	nw.	J. M. Connolly
New Salem	Morton	2,163	11	38.6	−4.0	72	14	9	† 6	44	0.78	−0.40	0.55	.....	6	10	14	6	nw.	J. Christiansen
Orange ††	Adams	2,586	7	38.6	.....	70	14	11	8	41	1.77	.....	1.23	0	3	6	16	8	nw.	J. E. Goforth
Oriska	Barnes	1,270	11	41.4	−1.8	79	28	9	6	37	1.66	−0.03	1.40	T.	3	9	16	5	nw.	J. J. Taylor
Park River	Walsh	998	12	41.0[a]	−0.2	69[a]	14	8[a]	6	32[a]	1.07	−0.20	0.50	2.0	6	16	2	12	n.	F. A. McCray
Pembina	Pembina	789	42	37.5	0.0	74	27	0	5	36	0.32	−1.33	0.12	.....	4	13	7	10	nw.	C. W. Shumaker
Plaza	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	1.51	.....	1.05	0.7	5	12	11	7	nw.	J. A. Johnson
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	1.75	.....	1.10	13.0	4	14	7	9	nw.	C. Frank
Ranger	Slope	2,408	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Hubbard
Steele	Kidder	1,857	19	41.2	−3.0	65	†17	20	† 5	35	1.06	0.00	0.45	0.5	6	9	19	2	w.	H. S. Wood
Taylor	Stark	2,493	.....	40.8	.....	75	27	14	8	48	.....	.....	.....	.....	.....	10	0	20	nw.	H. Leutz.
Towner	McHenry	1,482	14	39.7	−1.1	73	14	8	5	40	1.54	+0.29	1.16	T.	3	8	13	9	nw.	B. Bagley
Turtle Lake	McLean	1,899	4	37.8	.....	72	14	13	† 6	39	1.05	.....	0.75	T.	2	11	17	2	nw.	E. J. Jones
University	Grand Forks	830	24	38.8	−3.1	68	14	8	6	35	1.76	−0.33	0.52	6.1	12	8	14	8	n.	U. S. Weather Bureau
Wahpeton	Richland	962	22	41.1	−3.3	73	28	8	9	43	3.08	−0.74	1.60	.....	5	10	3	17	nw.	F. E. Smith
Walhalla	Pembina	966	9	38.0	.....	68	†14	− 1	6	37	0.63	.....	0.53	1.0	2	12	5	13	n.	I. DeL. Lee
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker
Westhope	Bottineau	1,508	10	36.5	.....	70	14	4	5	37	0.85	.....	0.44	T.	4	8	10	12	nw.	W. A. Meddaugh
Williston	Williams	1,875	37	40.3	−0.2	75	14	14	5	39	1.31	+0.08	1.09	1.0	7	4	16	10	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	24	36.6	−3.6	70	14	3	5	40	1.43	+0.50	1.06	1.5	5	6	12	12	nw.	M. A. Ostby
Zap	Mercer	1,800	3	40.0	.....	76	14	10	8	44	1.46	.....	1.14	0.5	4	7	15	8	nw.	H. A. Crandall
Moorhead, Minn.	Clay	935	35	39.8	−1.6	70	28	10	6	37	2.72	+0.39	1.07	8.4	12	12	6	12	n.	U. S. Weather Bureau
Averages				39.2	−2.2	79	†27	− 6	† 6	51	1.40	−0.07	1.95	2.9	5	10	10	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for April, 1916.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red				.14		T.	.09	.06					T.			.23				2.00	.28			T.	T.				T.	.10		2.90
Aplin	Knife						.12						.20							.62	.99	.19											2.12
Ashley	Missouri			.12				.20								.26					.70			T.						T.		1.28
Beach	Lit. Missouri		.05	.03			T.	T.				.05	.05			.01				.50	.05		.05							.05		0.89
Berthold Agency	Missouri											T.	.19	T.		T.			T.	1.04	.51			T.						T.	T.	1.74
Bismarck ***	Missouri		T.				.03	.01				T.	.01	.03					.01	.43	.09		.04	T.	T.	T.	T.		T.	T.	T.		0.65
Bottineau ‖ ‖	Mouse			.01				.09						.14						.55	.13		T.			.01	T.						0.93
Bowbells ‖ ‖	Mouse							.08					.06							.37	.70										.05		1.26
Bowman	Grand			.09				.02												1.45	.65		.06							T.		2.27
Buford	Missouri			T.	T.			.02				.01	.03	T.				T.	.02	.18			T.	T.						T.		0.26
Cando	Sheyenne																															
Carson	Heart		.05	.05															.20	1.60	.20			.03							.03		2.16
Colgate	Sheyenne				.20			.20								.10	.08				1.53					T.				T.	.40		2.51
Cooperstown	Sheyenne				T.	T.														.20	.30										.30		0.80
Crosby	Mouse						T.	T.					T.						.18	.45	.51		T.										1.14
Devils Lake ***	Sheyenne		.01	.01	T.	T.	.07	.03					.15	.01			T		.04	.47					T.	T.	.01			.01	.28		1.09
Dickinson	Heart		T.	T.			T.	T.					T.					T.	1.95	.74			T.									2.71
Donnybrook	Mouse																		.52	.58	.20										.05		1.35
Dunseith	Mouse		.05	.02			.04						.04						.08	.08				.02	.02								0.35
Eckman	Mouse			T.	.06		.03						.05			T.			.64	.42	T.			T.	T.	T.				T.	T.		1.20
Edgeley	James															.21				.26	.87										.07		1.41
Energy	Missouri						T.						.06						.41	.35								T.			.02		0.84
Epping	Missouri									.10										.72	.30										.04	.04		1.20
Fessenden ‖ ‖	James				.06		.10							.11	T.					.39	.13					.04	T.			T.	.18		1.01
Forman	Sheyenne			.05	.05		.20		T.							.80				1.00	.75									.10	.10		3.05
Fullerton	James				T.		.10									.18				.38	.56										.04		1.26
Garrison	Missouri		T.				.25						.25	.15					.10	.26	.07									T.	.12		1.20
Goodall	Missouri												T.						.25	.50	.60									.10	.10		1.65
Grafton ‖ ‖	Red				.02									.28						.22											.02		0.54
Grand Rapids	James		T.					T.								.20				.50	.30									T.			1.00
Granville	Mouse				T.		T.						.02						.72	.45					T.						.01		1.20
Hannah	Pembina	T.	.10				.30						.15						*	.34					.02						T.		0.91
Hansboro	Red		.10										.40												.12					.10			0.72
Hettinger	Grand						T.	T.					T.	T.						1.75	T.		T.	.01	T.						.09		1.85
Hillsboro	Red							.60					.05			.02	.30			.02	1.74	.17				.05					.40		3.35
Howard	Missouri		T.	T.	T.		T.	T.		T.	T.	T.	T.	T.					.02	*	.70		T.		T.				T.	*	.37		1.09
Jamestown ‖ ‖	James			T.			.20		.05						.05						.40	.20					T.				.05		0.95
Lakota	Sheyenne		T.	.02	.02	.02	.01	.04					1.10	T.					.10	.57					T.	T.				T.	.16		2.04
Lamoine	Missouri		T.				T.	T.					T.							T.								T.	T.	T.	T.		T.
Langdon ‖	Pembina			.04	.06			.07						.40						.60	.02					T.	.03			T.	T.		1.22
Larimore ‖	Red				.12			.15						.29								.84				.03	.03						1.46
Lisbon ‖	Sheyenne				.10	T.		.05	T.								.34			T.	1.00	.16					T.			T.	.10		1.75
McHenry	James						.23						T.											T.	T.	T.				T.	.10		1.45
McKinney	Mouse							.05												T.	.05								T.	T.			0.10
McLeod	Sheyenne				.05			.15								.20	.20			.70	.68	.29									.15		2.42
Maddock	Sheyenne												.18							.45											.11		0.74
Mandan ‖	Missouri			T.	T.			.05					T.	.01		T.				.78	.08	T.	.01					T.		T.	T.		0.73
Manfred	Sheyenne				.10			.10					.13	T.					T.	.62	T.				T.					T.	.30		1.25
Manning	Knife																															
Marmarth	Lit. Missouri		.10	.02	.01		T.						T.			T.	T.		T.	.94	.01		.04	T.					T.	.02	.06		1.20
Marstonmoor	James		T.		T.		.02	T.		T.			T.			T.			T.	.10	.40		T.		T.	T.	T.		T.	T.	T.		0.52
Mayville	Red				.12	.01			.10					.20			.33				1.20	.26									.28		2.50
Melville	James						T.						T.			.25			T.	.42	.26				T.						.30		1.23
Milnor	Red	T.			.13			.15								.12	.26		T.	.57	.50	.08								T.	.27		2.08
Minot ‖	Mouse							T.						.01						.90	.50										.20		1.61
Minto	Red						.07									.10			.06	.13	.05			.01	.03	.05					.04		0.54
Mott	Cannon Ball			.03				.01										.05	.46	1.92	.06			.02							.01		2.56
Napoleon ‖	Missouri							.02	.03			.05		.03			.13			.02	.55	.08					T.				.04	.10		1.05
New England	Cannon Ball		.10																	1.08	.42										.05		1.65
New Salem	Heart		T.	.01	T.									.02					.01	.55	.17	T.	T.	T.						.01	T.		0.78
Orange	Cannon Ball																		.19	1.23	.35												1.77
Oriska	Sheyenne			T.	T.	T.										.15			T.		1.40	.11											1.66
Park River	Red			T.	T.	T.	T.	.15					.50	.06			.02		.23	.12	T.					T.				T.	T.		1.07
Pembina ‖	Red	.04											.06	.12			.08			.02						T.	T.						0.32
Plaza	Missouri										.06		.07						.10	1.05	.23												1.51
Power	Sheyenne																															
Powers Lake	Missouri			.20															.05	.40	1.10									T.			1.75
Steele	Missouri		.02					.45					T.	.14			T.			.42		T.	T.			.01		T.		T.	.02		1.06
Taylor	Heart																															
Towner	Mouse				T.		T.						T.	.11					1.16	.27													1.54
Turtle Lake	Missouri						T.						.30						.75	T.									T.			1.05
University	Red			.07	.05			.40					.28	.01		.10	.07		T.	.05	.52				T.	.03				.01		.17		1.76
Wahpeton ‖	Red				T.	T.		.32	.06								.95				1.60	.15									T.		3.08
Walhalla	Pembina												.10							.53													0.63
Washburn	Missouri																															
Westhope	Mouse			T.			T.						.14						.21	.44	T.				.06								0.85
Williston ***	Missouri			T.		T.	T.	T.				.01	.02	T.					.10	.93	.16		.01	T.							.08	T.		1.31
Willow City	Mouse		T.				.10						.14						1.06	.08										T.	.05		1.43
Zap	Knife		T.				.01												T.	1.14	.30			.01										1.46
Moorhead, Minn ***	Red			.01	.12	T.	.10	.39						T.		.34	.24		T.	.76	.48	.01				.03					.02	.22		2.72

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	34	38	45	33	27	33	33	44	49	67	52	47	46	64	50	54	63	54	50	40	54	57	63	55	43	54	62	64	47	34	....	48.5
	Minimum	31	20	22	27	14	6	13	13	24	22	30	31	34	27	34	35	32	34	38	39	33	28	32	35	33	35	31	41	32	26	....	28.4
Aplin	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ashley	Maximum	37	45	44	36	30	38	33	38	55	64	60	59	48	67	60	55	64	57	53	43	54	62	55	53	46	44	62	69	56	42	....	50.6
	Minimum	28	20	28	25	20	12	23	14	27	29	36	40	34	30	35	37	28	42	42	34	29	35	31	31	32	34	35	42	32	27	....	30.4
Beach	Maximum	48	50	46	38	34	30	31	52	66	60	62	56	57	76	66	67	60	61	40	44	66	60	50	54	51	58	73	65	52	46	....	54.0
	Minimum	28	30	24	21	15	20	23	17	27	34	38	39	39	32	35	36	23	35	33	30	25	35	30	22	21	24	28	43	27	19	....	28.4
Berthold Agency	Maximum	43	48	50	37	32	46	35	45	57	62	62	50	53	76	65	59	63	62	50	37	60	59	55	57	62	54	58	58	43	37	....	52.5
	Minimum	25	26	25	19	17	16	18	13	25	30	36	38	32	31	36	31	22	35	32	31	26	36	26	29	29	27	29	42	24	25	....	27.7
Bismarck	Maximum	39	35	43	36	31	41	32	42	55	65	63	58	50	73	56	50	67	61	49	51	58	63	59	54	52	46	67	64	49	39	....	51.8
	Minimum	25	25	27	24	18	16	20	16	29	30	38	40	33	32	39	32	26	43	39	32	28	34	33	30	33	36	29	40	29	26	....	30.1
Bottineau §§	Maximum	33	33	39	27	23	33	28	38	44	50	45	43	48	71	64	54	61	48	41	47	55	60	61	52	47	53	66	66	41	39	....	47.0
	Minimum	19	17	22	21	6	7	14	8	14	28	30	36	32	32	36	33	26	38	37	34	33	30	29	30	30	32	28	34	25	24	....	26.2
Bowbells §§	Maximum	35	37	35	28	26	38	30	42	44	43	48	39	50	69	64	58	61	45	35	40	63	57	64	55	57	54	79	74	38	35	....	48.1
	Minimum	11	16	22	7	2	3	16	7	10	31	32	33	30	30	38	30	30	35	33	29	27	28	32	33	27	28	32	35	24	20	....	24.4
Carson	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Colgate	Maximum	45	35	45	45	34	32	32	40	50	62	58	49	50	60	64	58	63	62	52	48	48	50	63	54	42	59	64	62	46	45	....	50.6
	Minimum	28	18	30	24	15	7	22	18	27	28	33	38	33	28	34	39	31	32	34	32	33	27	32	31	33	37	45	36	32	25	....	29.4
Crosby	Maximum	36	42	41	33	31	41	34	——	——	50	50	42	50	69	69	——	61	58	46	37	47	59	58	57	56	——	70	——	——	——	....	[c]49.4
	Minimum	12	12	28	12	10	14	24	——	——	15	34	33	32	35	39	——	32	35	33	30	25	34	32	28	29	——	26	——	——	——	....	[c]26.2
Devils Lake	Maximum	32	37	38	30	19	33	28	38	42	54	51	41	47	70	55	53	61	56	50	47	51	57	61	50	39	35	63	65	40	36	....	46.6
	Minimum	22	18	29	19	10	12	15	12	31	30	33	33	32	35	38	37	32	36	41	38	33	30	34	35	32	35	32	38	28	24	....	29.1
Dickinson	Maximum	43	42	39	33	34	47	34	43	58	64	61	57	52	74	67	55	65	61	57	35	52	57	57	52	51	49	70	64	50	40	....	52.1
	Minimum	30	22	24	26	16	17	23	14	34	34	39	37	34	45	32	35	37	37	32	30	17	35	31	37	27	23	27	46	28	25	....	29.8
Donnybrook	Maximum	38	39	36	35	30	40	——	41	48	51	57	45	51	72	60	55	71	60	46	38	57	57	60	53	50	52	68	65	——	44	....	[b]50.7
	Minimum	24	24	26	11	12	15	——	9	31	30	33	33	31	36	42	32	31	34	31	30	29	37	30	32	30	30	33	41	——	17	....	[b]28.4
Dunseith	Maximum	33	33	41	33	22	27	27	33	41	50	46	44	45	67	67	66	59	54	48	55	59	70	68	65	48	51	56	66	58	44	....	49.2
	Minimum	22	12	25	12	2	12	14	3	30	27	31	32	32	33	34	36	30	38	38	34	31	28	27	31	29	33	29	31	26	24	....	26.2
Edgeley	Maximum	38	37	47	41	31	37	33	40	55	65	56	63	50	69	64	58	64	63	54	44	54	60	52	55	50	49	63	70	56	48	....	52.5
	Minimum	29	22	29	29	20	13	24	17	25	28	36	39	34	30	30	39	31	36	43	35	32	28	32	33	31	35	29	38	34	27	....	30.3
Fessenden §§	Maximum	37	34	40	33	24	35	29	40	46	59	53	44	49	72	55	55	63	59	47	48	54	62	61	49	43	51	64	64	45	38	....	48.4
	Minimum	28	20	30	21	13	13	15	15	17	27	32	33	30	31	37	36	28	32	34	37	31	27	32	33	32	32	28	33	29	24	....	27.7
Forman	Maximum	45	38	45	39	32	38	34	49	54	69	61	64	56	70	68	55	65	63	55	53	53	60	——	60	50	53	66	72	69	50	....	[a]54.7
	Minimum	30	23	29	29	22	12	26	19	28	28	38	43	36	19	40	40	29	40	44	35	33	30	——	32	33	38	32	46	37	31	....	[a]31.8
Fullerton	Maximum	38	38	46	37	29	37	32	40	51	67	58	64	51	68	48	66	64	58	50	45	53	62	59	53	48	49	62	70	56	45	....	51.4
	Minimum	29	23	28	29	21	13	25	18	26	28	37	39	35	28	33	30	35	37	44	33	33	28	34	34	32	37	31	41	34	26	....	30.7
Garrison	Maximum	37	41	37	35	30	40	35	39	50	59	60	50	51	74	65	55	60	58	50	50	59	59	59	50	52	51	72	65	48	38	....	51.0
	Minimum	23	25	25	18	14	14	20	13	28	29	34	35	30	32	37	31	28	36	33	33	36	36	37	29	30	32	27	43	23	25	....	28.6
Grafton §§	Maximum	27	35	39	27	23	27	32	37	45	50	52	45	48	68	54	56	61	60	57	48	52	56	65	54	45	59	65	67	50	39	....	48.1
	Minimum	23	7	10	20	6	2	12	19	17	27	30	35	30	32	36	39	33	35	40	39	32	29	33	36	33	33	30	40	27	25	....	27.0
Granville	Maximum	32	42	38	35	30	38	28	42	47	53	52	48	52	71	58	53	65	56	47	48	52	60	62	54	47	54	68	62	50	40	....	49.5
	Minimum	22	22	28	20	10	15	18	15	30	30	33	32	39	31	32	33	30	35	37	38	34	28	42	34	32	34	28	42	28	28	....	29.1
Hannah	Maximum	33	32	38	28	18	25	24	31	35	39	38	36	37	51	46	40	54	45	46	45	49	54	60	49	46	59	61	67	65	49	....	43.3
	Minimum	19	− 1	25	18	− 5	4	7	− 6	15	24	23	32	32	32	31	30	31	29	33	32	29	32	37	29	27	23	30	41	43	23	....	24.0
Hansboro	Maximum	36	32	37	44	25	25	30	32	38	46	42	38	43	64	56	50	58	55	52	50	52	60	60	49	44	60	62	67	46	40	....	46.4
	Minimum	16	8	15	20	10	− 6	5	0	20	27	28	30	30	30	35	33	32	33	32	30	30	34	34	34	28	31	35	44	23	22	....	24.8
Hettinger	Maximum	41	36	40	39	34	49	36	40	59	65	62	57	52	71	64	56	64	62	55	39	63	59	56	59	50	69	66	50	46	53	....	53.1
	Minimum	12	35	21	22	21	16	24	10	30	35	37	42	35	33	32	33	22	36	34	31	24	37	33	23	26	25	29	46	29	26	....	28.6
Howard	Maximum	40	40	34	31	26	35	32	40	52	48	48	41	53	73	56	56	60	60	48	40	51	55	52	51	59	62	68	70	40	36	....	48.6
	Minimum	12	19	24	19	4	15	20	15	28	35	33	33	32	37	36	25	24	38	31	28	23	30	25	20	21	25	22	36	22	6	....	24.8
Jamestown §§	Maximum	35	39	45	39	39	37	33	42	54	67	57	58	51	69	50	57	65	57	48	44	55	61	60	53	43	52	64	70	50	54	....	51.6
	Minimum	22	13	24	39	21	13	15	18	21	29	33	37	34	32	36	40	30	36	44	38	33	28	31	33	31	30	29	28	28	22	....	28.9
Lakota	Maximum	33	30	37	30	30	28	28	34	40	52	47	40	45	65	53	48	48	53	48	47	48	54	58	48	41	53	60	63	47	35	....	44.8
	Minimum	24	15	28	18	11	10	10	12	22	28	28	28	28	28	37	37	30	34	40	38	32	28	41	35	31	35	29	41	27	24	....	27.6
Lamoine	Maximum	28	32	35	31	22	31	33	36	44	55	55	51	48	70	51	54	61	57	53	50	53	64	52	50	48	48	64	64	52	48	....	48.0
	Minimum	22	16	22	18	13	9	17	6	25	25	33	32	33	29	34	34	27	39	41	32	30	25	25	28	30	32	29	32	30	24	....	26.1
Langdon	Maximum	28	33	39	23	17	25	29	33	40	43	46	37	43	63	54	53	59	55	47	45	51	57	61	50	39	55	62	66	37	35	....	44.2
	Minimum	21	5	17	16	1	3	7	3	4	25	26	31	30	30	35	36	31	34	35	35	31	28	32	34	30	29	31	34	24	22	....	24.0
Larimore §§	Maximum	31	35	40	28	21	28	28	38	48	56	69	52	63	68	49	50	62	60	53	44	50	58	62	52	54	53	62	66	42	38	....	48.9
	Minimum	27	14	28	22	11	3	25	11	28	28	31	33	37	30	35	39	36	34	42	35	33	28	35	38	35	32	34	40	30	24	....	29.3
Lisbon §§	Maximum	35	44	40	41	36	36	30	40	52	70	60	61	50	71	62	65	65	65	59	45	59	60	64	58	45	56	64	63	63	50	....	53.6
	Minimum	30	20	31	26	11	10	23	16	22	28	33	43	35	27	37	48	30	38	40	38	34	25	33	34	32	36	29	38	34	26	....	30.2
McHenry	Maximum	35	38	40	34	22	35	30	39	44	57	52	44	49	68	55	55	60	58	50	48	52	59	59	51	39	56	64	65	48	38	....	48.1
	Minimum	24	17	30	19	14	11	14	11	28	27	32	37	32	30	35	36	26	35	42	37	32	26	32	32	32	35	28	42	29	26	....	28.4
McKinney	Maximum	41	45	38	35	28	40	33	42	58	49	51	42	56	73	63	55	65	50	50	40	59	60	60	55	56	65	70	66	51	38	....	51.1
	Minimum	25	22	25	16	8	10	25	10	30	30	30	32	31	32	32	36	30	32	32	30	36	30	31	26	30	31	29	40	26	22	....	27.6
Maddock	Maximum	35	37	48	37	28	34	33	38	41	54	52	48	49	70	70	54	62	60	53	49	54	61	59	56	45	52	64	64	62	42	....	50.4
	Minimum	26	15	28	21	10	13	14	9	30	29	31	38	31	33	39	32	30	34	41	38	31	29	30	32	32	34	30	45	30	25	....	28.7
Marmarth	Maximum	43	44	41	40	37	50	30	49	62	66	64	54	55	71	67	54	64	60	48	35	63	57	56	53	47	56	69	62	50	38	....	52.8
	Minimum	35	28	24	23	17	19	21	16	30	35	45	41	32	36	32	29	22	32	34	31	24	37	36	23	24	25	28	40	26	18	....	28.1
Minot §§	Maximum	36	43	38	33	26	40	28	42	51	58	58	45	52	72	64	60	66	51	43	50	58	60	63	53	50	52	70	76	44	36	....	50.6
	Minimum	24	20	27	21	16	15	19	14	15	29	32	34	32	33	38	34	29	34	36	33	29	29	31	34	31	32	32	35	27	24	....	28.0
Mott	Maximum	38	37	33	34	39	40	34	58	55	62	64	68	77	70	74	60	60	52	50	43	56	56	57	54	50	51	53	50	46	39	....	52.0
	Minimum	24	19	24	18	23	19	12	27	31	34	35	37	38	34	28	31	34	36	33	30	23	39	32	25	28	27	29	28	27	24	....	28.2
Napoleon §§	Maximum	37	36	42	34	28	38	31	40	53	64	65	61	50	70	50	57	66	61	56	50	56	65	61	54	48	44	65	68	51	40	....	51.4
	Minimum	21	16	26	22	15	10	25	11	13	25	34	27	35	30	32	35	25	28	40	34	27	23	25	30	30	29	24	34	31	27	....	26.1
New England	Maximum	45	41	40	36	34	32	48	48	60	65	63	55	54	73	63	58	67	61	56	37	58	58	57	55	56	50	52	47	45	35	....	51.6
	Minimum	20	14	17	17	18	13	23	28	32	32	38	40	34	32	31	29	23	36	32	30	23	38	32	25	23	17	26	28	26	24	....	27.4
New Salem	Maximum	33	36	41	33	34	41	36	38	42	63	63	53	50	72	56	56	65	64	55	48	58	60	58	53	53	46	67	65	53	41	....	51.1
	Minimum	16	17	22	17	19	9	18	9	19	30	35	36	32	32	34	30	26	34	36	29	26	31	30	28	29	26	23	42	27	24	....	26.2
Orange	Maximum	43	33	40	35	33	44	30	38	56	64	62	54	50	70	55	55	64	62	47	41	60	59	56	53	49	46	67	65	48	42	....	50.8
	Minimum	13	20	19	18	15	14	21	11	28	33	35	34	32	32	35	31	23	36	33	30	19	27	33	27	29	23	26	35	27	27	....	26.3
Oriska	Maximum	36	36	44	34	26	34	31	43	54	64	58	51	49	71	65	57	65	58	52	45	53	61	63	55	44	55	65	79	58	51	....	51.8
	Minimum	29	29	28	25	17	9	23	18	28	27	34	40	29	37	43	38	32	33	44	36	33	28	41	34	33	37	33	42	31	22	....	31.1
Park River	Maximum	34	30	41	37	24	27	29	38	41	52	52	——	49	69	65	55	62	58	53	51	52	56	62	52	46	56	66	68	60	37	....	[a]49.7
	Minimum	18	15	29	20	11	8	14	17	32	31	——	32	32	41	48	46	35	33	40	43	49	29	45	38	33	39	56	46	28	25	....	[a]32.2
Pembina §§	Maximum	28	31	39	24	16	28	32	34	44	51	52	41	42	62	56	54	62	61	58	49	52	62	59	52	43	61	74	71	48	44	....	47.7
	Minimum	22	6	24	16	0	2	12	4	21	26	36	36	28	32	38	38	34	36	38	37	32	29	38	39	36	34	38	42	28	26	....	27.3
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	35	36	39	34	27	35	34	40	43	54	52	48	50	73	72	55	64	63	47	50	55	61	59	57	47	52	66	65	54	42	....	50.3
	Minimum	23	20	30	12	8	14	16	14	30	29	32	38	32	33	38	34	31	37	40	36	35	29	31	35	32	36	28	44	29	28	....	29.1
Turtle Lake	Maximum	37	37	38	34	29	39	32	39	48	58	58	51	50	72	65	55	60	59	48	51	56	62	50	40	45	45	47	45	37	35	....	48.0
	Minimum	25	23	25	21	15	13	18	13	28	28	34	36	31	33	35	32	27	36	38	33	28	33	33	28	30	30	30	25	25	26	....	27.7
University	Maximum	34	33	40	37	18	28	34	38	44	58	54	43	48	68	71	55	62	60	58	48	51	56	61	56	41	56	63	65	43	38	....	48.0
	Minimum	19	13	30	14	9	8	21	16	30	30	33	35	32	33	40	38	33	37	46	37	34	29	34	36	34	39	33	40	29	27	....	29.6
Wahpeton §§	Maximum	38	38	46	46	26	35	34	38	51	70	57	60	29	66	66	57	67	59	50	50	52	56	64	64	44	56	66	73	50	48	....	52.5
	Minimum	31	22	26	26	12	9	13	16	8	28	33	36	39	28	38	38	37	37	43	30	33	29	36	32	33	35	32	40	35	35	....	29.7
Washburn	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Westhope	Maximum	36	35	36	28	22	33	30	38	42	47	42	42	49	70	63	54	63	48	44	49	54	59	61	56	46	56	68	66	44	38	....	47.3
	Minimum	19	22	18	6	4	12	17	8	16	30	36	33	31	33	33	34	31	40	40	33	32	30	30	33	31	30	32	33	32	23	....	25.7
Williston	Maximum	39	43	38	31	27	42	29	52	56	58	60	46	55	75	63	56	62	59	43	38	50	57	57	50	53	56	73	62	49	38	....	50.3
	Minimum	25	30	26	22	14	21	25	23	32	40	49	38	34	38	38	34	32	39	32	31	25	38	31	30	28	30	34	33	27	19	....	30.3
Willow City	Maximum	31	35	36	26	21	34	26	36	38	47	45	36	46	70	63	53	57	54	47	47	57	58	61	50	45	52	65	65	40	37	....	45.9
	Minimum	19	13	24	21	3	9	14	6	23	26	29	32	31	30	35	44	27	37	38	35	35	30	32	32	32	33	33	41	27	26	....	27.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


Total Precipitation, inches, April, 1913.
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
NO RAIN
Statute Miles
Kilometers
H H. F.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MAY, 1916

BY

EDWIN G. LARSON,

OFFICIAL, TEMPORARILY IN CHARGE.

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JUNE 30, 1916.

Departure of the Mean Temperature from the Normal, May, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

EDWIN G. LARSON, Official, Temporarily in Charge.

VOL. XXVI. BISMARCK, N. D., MAY, 1916. No. 5.

GENERAL SUMMARY.

The month was cool and dry over the greater portion of the State. The minimum temperatures were about the normal throughout the month, but except for a few warm days during the first decade the maximum temperatures were considerably below the seasonal normal. Killing frost occurred in some localities as late as the 19th, but the damage was negligible, as vegetation was not sufficiently advanced to be materially injured. The precipitation was only about half the normal amount over the northern half of the State, about normal in the southwestern portion, and about twice the normal in the southeastern portion. The heavy rains in the latter portion delayed farm work, especially the planting of flax and corn, to a considerable extent. Wheat, oats and other grains were favorably affected by the moderately low day temperatures, and were in excellent condition generally at the end of the month, except in a few localities where the precipitation was insufficient. There was an unusually large number of days with high winds, and those of the period from the 7th to the 10th, inclusive, were exceptionally high, ranging in velocity from 50 to 60 miles per hour. As practically no precipitation occurred during the first decade, and the plowed fields were still bare, the winds caused considerable damage by blowing or drifting the lighter upland soils and disturbing the newly seeded grain. The wind and dust caused much discomfort, and several observers in the eastern part of the State, where the wind was most violent, commented on the winds of the above named period as the worst wind and dust storm they had ever experienced.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.83 inches. The highest was 30.34 inches at Bismarck, Burleigh County, on the 12th; the lowest was 29.10 inches at Devils Lake, Ramsey County, on the 9th.

TEMPERATURE.

The mean temperature for the State was 51.0°, or 2.1° below the normal, and 0.1° lower than the mean for May, 1915. The highest mean reported was 55.4° at Forman, Sargent County; the lowest was 46.8° at Howard, Williams County. The highest temperature reported was 95° at Forman, Sargent County, on the 7th; the lowest was 15° at New England, Hettinger County, on the 2d. The greatest monthly range was 72° at Lisbon, Ransom County, and at Forman, Sargent County. The greatest daily range was 61° at Jamestown, Stutsman County, on the 4th. Nearly all the highest temperatures were recorded during the period from the 5th to the 9th, inclusive, while most stations recorded the monthly minimum on the 1st.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 62 per cent, the average at 7 a. m. being 75 per cent, and at 7 p. m. 49 per cent.

PRECIPITATION.

The average precipitation for the State was 2.21 inches, or 0.36 inch less than the normal, and 0.95 inch less than the average for May, 1915. The greatest monthly amount reported was 5.16 inches at Forman, Sargent County; the least was 0.45 inch at McKinney, Renville County. The greatest amount recorded in any twenty-four consecutive hours was 2.36 inches at Power, Richland County, on the 13th-14th. Measureable amounts of snow were confined almost entirely to the extreme southern portion of the State, seven stations in that section reporting from one to three inches. The average number of days with 0.01 inch or more of precipitation was 8. Only a few scattered showers occurred during the first twelve days of the month, but during the remainder of the month showers were frequent. Especially rainy periods were from the 13th to 16th, inclusive, the 21st and 22d, the 25th and 26th, and the 31st.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 12.2 miles. The greatest wind movement was 10,711 miles at Devils Lake, an average of 14.4 miles per hour; the least was 7,923 miles at Moorhead (Minn.), an average of 10.6 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 65 miles per hour from the west at University, Grand Forks County, on the 10th.

SUNSHINE AND CLOUDINESS.

There was nearly the normal sunshine; the average number of clear days was 11, partly cloudy days 11, and cloudy days 9.

ERRATA, APRIL, 1916.

Page 28: Bismarck, number of partly cloudy days should be 10, and cloudy, 10; Goodall, total precipitation should be 1.55; Pembina, monthly mean and departure should be 37.4°, -0.1°. Page 29: Goodall, total precipitation should be 1.55.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.5	96	13	2.21	−0.36	12	6	8	17	n.
1893...	52.2	−1.1	97	19	1.61	−0.96	6	11	8	12	se.
1894...	54.6	+1.5	98	23	1.51	−1.06	5	16	9	6	ne.
1895...	54.4	+1.3	101	15	2.48	−0.09	8	10	11	10	nw.
1896...	56.9	+3.8	103	22	4.89	+2.32	13	6	14	11	nw.
1897...	55.4	+2.3	97	16	0.71	−1.86	4	16	10	5	nw.
1898...	52.7	−0.4	92	14	1.98	−0.59	5	15	9	7	n.
1899...	50.6	−2.5	91	16	3.49	+0.92	8	9	9	13	se.
1900...	59.2	+6.1	106	15	0.69	−1.88	3	18	8	5	se.
1901...	60.0	+6.9	99	19	0.31	−2.26	2	21	4	6	se.
1902...	55.9	+2.8	94	24	3.57	+1.00	10	13	6	12	se.
1903...	54.3	+1.2	96	11	3.08	+0.51	4	14	8	9	s.
1904...	54.2	+1.1	93	20	1.76	−0.81	6	16	9	8	nw.
1905...	50.1	−3.0	88	10	3.05	+0.48	8	12	8	11	nw.
1906...	50.8	−2.3	99	11	4.63	+2.06	12	9	8	14	ne.
1907...	44.0	−9.1	84	6	1.11	−1.46	6	12	10	9	nw.
1908...	50.8	−2.3	88	9	2.97	+0.40	8	13	7	11	ne.
1909...	51.0	−2.1	98	5	4.29	+1.72	10	12	9	10	nw.
1910...	50.7	−2.4	94	10	0.96	−1.61	6	12	11	8	nw.
1911...	55.0	+1.9	99	6	2.88	+0.31	8	14	9	8	nw.
1912...	54.2	+1.1	90	16	4.52	+1.95	11	10	10	11	nw.
1913...	51.2	−1.9	100	11	1.68	−0.89	9	10	10	11	nw.
1914...	55.2	+2.1	95	16	2.12	−0.45	8	16	8	7	nw.
1915...	51.1	−2.0	98	15	3.16	+0.59	9	10	10	11	se.
1916...	51.0	−2.1	95	7	2.22	−0.35	8	11	11	9	nw.

Climatological Data for May, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	20	50.8	−3.7	84	7	19	1	40	3.28	+0.19	1.70	0	7	18	3	10	n.	E. T. Carley.
Aplin	Oliver	1,900	9	.....	.....	.....	.....	.....	.....	.....	1.38	.....	0.71	0	3	.....	.....	.....	.....	J. B. Hagelbarger.
Ashley	McIntosh	2,001	19	52.0	−1.5	86	6	22	1	45	4.35	+2.19	1.10	3.0	6	16	10	5	nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	50.0	.....	86	6	21	2	50	1.50	.....	0.50	0	9	12	13	6	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	22	48.1	−6.2	72	28	21	† 1	37	1.33	−1.42	0.55	9	6	15	11	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	42	52.8	−2.4	89	6	25	1	47	1.95	−0.55	0.72	T.	03	12	10	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	49.8	−1.4	82	9	21	1	42	1.07	−1.21	0.56	0	9	8	13	10	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	48.6	.....	80	6	21	1	48	1.37	.....	0.64	0	9	11	6	14	.....	G. H. Phelps.
Bowman	Bowman	.....	2	50.4	.....	85	6	26	† 2	50	2.34	.....	0.77	2.0	11	16	4	11	w.	L. S. Diehl.
Buford	Williams	1,944	37	50.8	−3.4	83	6	24[a]	1	51[a]	1.79	−0.64	0.66	T.	7	8	13	10	w.	P. Elmore.
Cando	Towner	1,488	15	.....	.....	81	5	.....	.....	.....	1.06	−1.77	0.52	0	6	.....	.....	.....	.....	E. T. Judd.
Carson	Morton	.....	4	.....	.....	.....	.....	.....	.....	.....	1.74	.....	0.80	1.0	6	8	18	5	nw.	J. W. Evens.
Colgate	Steele	1,177	2	51.6	.....	87	7	21	3	45	4.06	.....	1.17	T.	11	10	13	8	nw.	S. N. Grimwood.
Cooperstrwn	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	3.10	.....	0.70	T.	7	14	11	6	nw.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	50.3	−2.4	83	7	24	1	40	1.47	−0.73	0.75	0	12	4	13	14	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	51.8	−0.8	84	6	20	1	49	2.19	−0.39	0.45	T.	14	5	4	22	n.	L. R. Waldron.
Donnybrook	Ward	1,760	17	49.0[a]	−0.9	80[a]	9	22[a]	1	47[a]	0.79	−1.78	0.38	0	4	.....	.....	.....	nw.	Geo. Michel.
Dunseith	Rolette	1,682	20	50.2	−2.2	78	6	22	12	43	2.30	+0.61	0.90	T.	10	2	16	13	nw.	J. G. Lamont.
Eckman	Bottineau	.....	11	50.4	.....	84	† 6	21	12	49	1.09	.....	0.55	0	3	9	7	15	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	52.6	−1.0	90	7	20	1	49	4.55	+1.81	1.79	0	6	4	13	14	nw.	O. A. Thompson.
Energy ††	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.39	0	8	5	17	9	w.	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.50	0	6	16	9	6	e.	M. E. Uggen.
Fessenden	Wells	1,610	4	49.8	.....	84	9	23	1	48	1.74	.....	0.35	0	9	11	13	7	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	55.4	−0.1	95	7	23	1	41	5.16	+2.26	1.70	0	9	.....	.....	.....	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	52.9	−0.6	91	7	22	2	53	4.99	+1.78	1.94	3.0	7	12	12	7	nw.	F. O. Alin.
Garrison	McLean	1,901	21	51.0	−2.0	91	9	22	2	47	0.93	−1.43	0.27	0	4	14	9	8	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	50.6	.....	80	† 5	22	1	49	1.40	.....	0.55	0	5	10	12	9	nw.	C. H. Layman.
Grafton	Walsh	827	24	50.4	−2.8	80	7	21	3	49	1.24	−0.99	0.32	0	9	16	6	9	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	52.6	.....	88	6	23	3	51	3.90	.....	1.50	0	6	19	3	9	nw.	G. H. Leick.
Granville	McHenry	1,504	9	49.5	.....	80	5	25	1	44	0.89	.....	0.55	0	5	5	17	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	11	49.2	.....	78	5	22	1	41	1.61	.....	0.66	0	9	6	11	14	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	50.6	.....	82	7	22	1	45	1.70	.....	0.65	0	6	.....	.....	.....	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	8	50.1	.....	84	6	24	11	47	1.72	.....	0.66	0	9	15	9	7	nw.	A. J. Ogaard.
Hillsboro	Traill	901	10	51.8	.....	82	7	20	1	35	3.54	.....	1.74	0	10	13	14	4	s.	F. E. Mayall.
Howard	Williams	2,275	7	46.8	.....	78	6	19	1	39	1.83	.....	0.43	T.	7	6	11	14	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	52.0	−1.6	85	† 4	22	1	61	2.33	−0.53	0.50	T.	9	13	9	9	e.	S. Calvelage.
Lakota	Nelson	1,579	15	48.7	−1.4	77	6	23	1	38	0.98	−1.52	0.35	0	6	6	23	2	sw.	C. R. Pettes.
Lamoine	Kidder	1,936	8	50.0	.....	84	9	18	1	48	1.56	.....	1.04	0	6	14	10	7	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	20	48.1	.....	80	7	23	1	41	1.29	.....	0.44	T.	9	15	10	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	51.0	−1.7	81	† 5	24	3	42	2.10	−0.28	1.38	3.0	6	12	8	11	nw.	G. G. Graham.
Lisbon	Ransom	1,091	12	52.9	+0.4	93	6	21	1	48	3.40	−0.37	1.60	0.5	10	17	2	12	nw.	W. S. Adams.
McHenry	Foster	1,509	6	51.0	.....	84	† 7	23	1	44	2.81	.....	0.70	0	8	20	5	6	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22	51.3	−0.8	84	9	23	1	48	0.45	−1.73	0.25	0	3	6	18	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	4	54.0	.....	85	7	21	1	40	4.75	.....	1.80	0	6	9	13	9	n.	E. W. Griggs.
Maddock	Benson	.....	1	51.5	.....	84	9	21	1	50	1.17	.....	0.26	0	6	6	0	23	nw.	W. M. Jackson.
Mandan	Morton	1,644	2	52.8	.....	88[a]	6	23	1	46	1.69	.....	0.67	0	12	.....	.....	.....	.....	No. Dt. Plains Field Sta.
Manfred	Wells	1,605	13	51.7	+1.0	85	9	25	† 1	47	1.46	−1.26	0.39	0	9	11	12	8	nw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	1.93	.....	0.83	0	4	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	48.5	.....	81	6	24[a]	8	47[a]	1.83	.....	0.57	0.4	11	8	9	14	nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	50.4	.....	86	9	16	1	53	5.07	.....	2.00	T.	8	9	15	7	nw.	H. H. McCumber.
Mayville	Traill	975	20	53.2	−1.9	84	7	21	1	39	3.70	+0.75	1.24	0	11	18	6	7	.....	W. C. Gould.
Melville	Foster	1,590	18	48.4	−4.3	76	† 5	25	1	34	3.97	+1.37	1.45	0	7	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	4.50	.....	1.63	0	11	12	11	8	nw.	Ilj. Edman.
Minot	Ward	1,557	20	52.1	−0.2	93	9	26	† 1	54	0.75	−1.36	0.50	0	5	4	23	4	ne.	W. I. Faris.
Minto	Walsh	820	23	52.4	−1.0	82	7	27	† 1	48	1.74	−0.75	0.85	0	7	14	5	12	se.	C. M. Evans.
Mott	Hettinger	2,424	9	51.2	.....	83	6	25	11	35	1.44	.....	0.73	2.0	5	13	9	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	50.9	−1.9	88	6	17	1	50	3.42	+0.96	1.10	0	11	7	10	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	22	49.6	−1.8	85	6	15	2	53	2.69	+0.44	0.65	2.0	11	8	13	10	nw.	J. M. Connolly.
New Salem	Morton	2,163	11	51.4	−0.3	87	6	20	1	49	1.33	−1.23	0.84	0	8	15	11	5	nw.	J. Christianson.
Orange ††	Adams	2,586	7	50.0	.....	87	9	23	1	47	2.02	.....	0.67	3.0	6	13	11	7	nw.	J. E. Goforth.
Oriska	Barnes	1,270	11	51.8	−1.0	87	7	21	1	50	3.07	−0.07	1.47	0	8	18	7	6	nw.	J. J. Taylor.
Park River	Walsh	998	12	51.8[c]	+0.1	80	† 5	28[d]	11	43[1]	2.20	−0.23	1.00	0	8	14	12	5	w.	F. A. McCray.
Pembina	Pembina	789	42	51.7	−0.7	81	† 5	28	3	44	0.58	−2.05	0.20	0	6	10	15	6	sw.	C. W. Shumaker.
Plaza	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Power	Richland	1,020	24	52.8	−1.7	78[i]	29	29	10	39	4.29	+1.47	2.36	0	4	13	10	8	nw.	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.23	0	7	10	6	15	nw.	C. Frank.
Ranger	Slope	2,408	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Hubbard.
Steele	Kidder	1,857	19	53.8	−0.1	80[a]	4	30	1	40[a]	3.35	+0.96	1.14	0	10	11	14	6	w.	H. S. Wood.
Taylor	Stark	2,493	.....	50.1	.....	84	9	23	2	50	.....	.....	.....	.....	.....	4	10	17	.....	H. Lentz.
Towner	McHenry	1,482	14	51.8	−1.4	84	9	23	2	45	1.61	−1.30	0.52	0	7	6	14	11	w.	B. Bagley.
Turtle Lake	McLean	1,899	4	51.0	.....	84	9	25	1	46	1.35	.....	0.50	T.	4	8	20	3	nw.	E. J. Jones.
University	Grand Forks	830	24	51.4	−2.3	84	7	25	3	38	2.59	+0.03	1.47	T.	10	14	11	6	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	52.2	−3.6	89	7	28	† 1	42	3.01	+0.21	1.43	0	11	16	4	11	nw.	F. E. Smith.
Walhalla	Pembina	966	9	51.4	.....	82	7	23	3	48	1.50	.....	0.38	0	8	7	14	10	n.	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	52.2	.....	82	8	26	†12	42	1.36	.....	0.78	0	7	4	15	12	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	50.6	−3.7	83	6	23	1	42	1.61	−0.65	0.64	T.	10	6	14	11	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	49.8	−2.1	80	9	22	17	48	1.11	−0.89	0.42	0	5	5	17	9	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	50.1	.....	85	9	20	2	48	1.75	.....	0.76	0	9	9	13	9	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	53.0	−1.8	85	7	25	1	38	3.76	+0.81	1.44	0	12	19	6	6	nw.	U. S. Weather Bureau.
Averages		.....	.....	51.0	−2.1	95	7	15	2	61	2.22	−0.35	2.36	0.3	8	11	11	9	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for May, 1916.

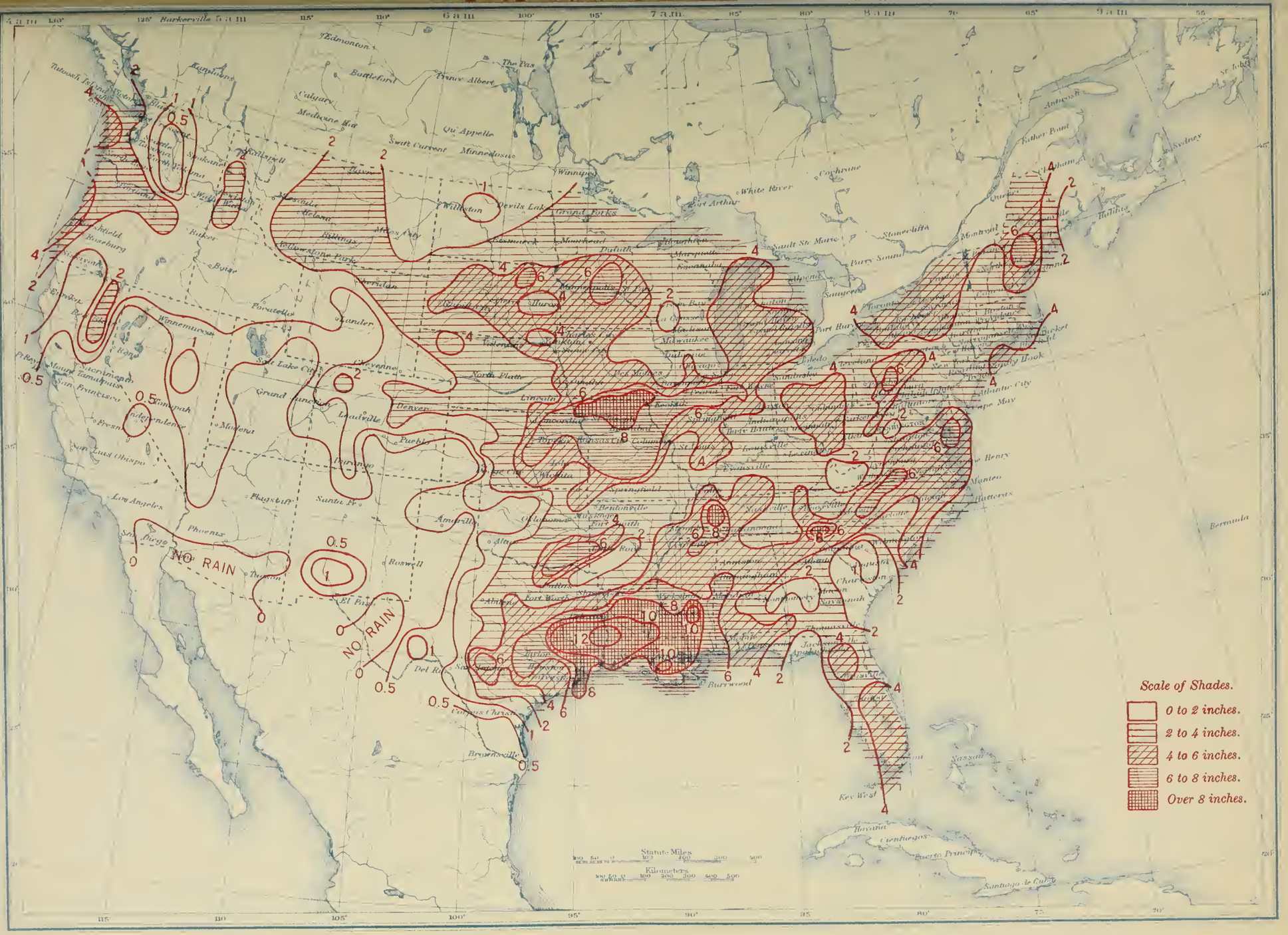
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red			T.										T.	.12	1.70	.25			T.		T.	.33	.13		.55	T.			T.		.20	3.28
Aplin	Knife																	.71						.27			.40						1.38
Ashley	Missouri												T.	.72	.60	1.10						.61	.32									1.00	4.35
Beach	Lit. Missouri	.08	.02								.19			.31	.13	T.	.10				T.	.50			.05	T.	T.			T.	.12	T.	1.50
Berthold Agency	Missouri	T.												.46			.20	.07				.55	.02	T.	T.	T.	T.	T.	T.		T.	.03	1.33
Bismarck ***	Missouri	.03	.06								T.			.72	.11	.01	T.		.03			.66	.01			.01	.11		.03	.01		.16	1.95
Bottineau ‖ ‖	Mouse				.06														.03	T.			.56	.24	.06	.01	.05	T.	.05			.01	1.07
Bowbells ‖ ‖	Mouse																	.26		.03			.64	.06	.07	.18	.04	.05	.04				1.37
Bowman	Grand		.12											.28	.22	.28	.10	.11				.77	.07		.10	.03							2.34
Buford	Missouri	.03	T.							T.				.66	.04	T.	.30					.33	T.		T.	.28	T.		T.		.15		1.79
Cando	Sheyenne																					.52	.01	.04		.30	.02	T.				.17	1.06
Carson	Heart	T.	.04											.80	.10	.10	T.					.50					.20		T.				1.74
Colgate	Sheyenne		T.	T.							T.			.08	.58	1.15	.10		T.	T.		.10	.17	.10		1.17	.06	T.	T.	.03		.52	4.06
Cooperstown	Sheyenne	T.													1.00	.30						.10				.70		.20	.10		.70	3.10
Crosby	Mouse																																
Devils Lake ***	Sheyenne			.03	T.						T.			T.	.02	.14			.04			.14	.01			.13	.01	.02	.18		.22	.53	1.47
Dickinson	Heart	.02	.10		T.						.06			.45	.07	T.	.10					.85		.02	.10	.10	.03	T.	.06	.15	.03	.15	2.19
Donnybrook	Mouse													T.				T.				.38	.27			.12	.02						0.79
Dunseith	Mouse		T.		.02	.11					.02										.20	.90	.30	T.	.40		.05	.08				.12	2.30
Eckman	Mouse													T.								.55	.53		T.			.01					1.09
Edgeley	James													.38	1.17	1.79						.50		.20								.51	4.55
Energy	Missouri							T.		T.		.04		.39	.31		.04					.31				.20	.06	T.		.04			1.39
Epping	Missouri													.20	.14							.50				.36			.25		.45		1.90
Fessenden ‖ ‖	James	T.			T.							T.		T.	.16	.11	.27	T.		T.	T.	T.	.35	.07		.24	.08	T.	T.	.12		.34	1.74
Forman	Sheyenne		.01	T.			T.							.15	.65	.90	.58					.57		.50	.10							1.70	5.16
Fullerton	James		.30				T.						T.	.26	1.00	1.94	T.					.48	T.	.32								.69	4.99
Garrison	Missouri	T.									T.			.27			T.					.31	.08			.27	T.		T.				0.93
Goodall	Missouri													.25	.15							.30					.15					.55	1.40
Grafton ‖ ‖	Red				.06										T.	.32	.21						.16	.05		.16	.09			.03		.10	1.24
Grand Rapids	James										T.			.30	1.50	.70						.50	.25									.65	3.90
Granville	Mouse			T.										.08			T.			.05		.55			.16				T.			.05	0.89
Hannah	Pembina		.02	.09	.18						.10						.07	T.	T.				.66		.26	.16					.07	T.	1.61
Hansboro	Red										.02											.30	.50	.08		.15						.65	1.70
Hettinger	Grand	.03	.10								T.			.55	.23	T.	.06				.04	.66			.03	T.		T.				.02	1.72
Hillsboro	Red		.02					.09						T.	.10	1.74	.09		T.			.25	.10			.56	.03					.56	3.54
Howard	Missouri	T.	T.	T.							T.	T.			.43	T.	T.		T.			.31	T.	.41	.02	.07	.31	T.	T.	T.	T.	.28	1.83
Jamestown ‖ ‖	James		T.											.07	.50	.50	.15						.50	.02		.25				.04		.30	2.33
Lakota	Sheyenne			T.	T.						T.			T.	T.	.35			T.	T.		.05	T.			.16		.05	.02	T.		.35	0.98
Lamoine	Missouri														*	*						*	.48			1.04	.04		T.				1.56
Langdon ‖	Pembina	T.			.11						.03						.44		T.				.10	.12		.20	.15		.02			.12	1.29
Larimore ‖	Red	.13	T.		.07											T.	1.38						T.	.30		T.	.18					.04	2.10
Lisbon ‖	Sheyenne	.05	T.									T.		.10	.40	1.60	.35			T.		.42	.08	.24			.08			T.	T.	.08	3. 0
McHenry	James														.70	.60				.20		.20	.05			.36			.35			.25	2.81
McKinney	Mouse																.10					.10			T.			T.			.25	0.45
McLeod	Sheyenne														.70	1.25						.40	.35							.25		1.80	4.75
Maddock	Sheyenne																.15					.26	.23			.24				.10		.19	1.17
Mandan ‖	Missouri	T.	.03	.02							T.	.02		.32	.26	.07		T.		.02		.01	.67	T.		.04	.11		T.	T.	T.	.12	1.69
Manfred	Sheyenne													.15		.09	T.		.03	T.		.21	.39			.20	.03	T.	.04			.32	1.46
Manning	Knife													.47							.83				.24						.39		1.93
Marmarth	Lit. Missouri	.10	.02								.02				.57	.12	.07				.10	.43	T.		.19	T.	.04		T.		.17	T.	1.83
Marstonmoor	James		T.	T.							T.	T.		.35	.55	1.30	T.		T.			.24	.15	T.		2.00	T.	T.	T.	.22		.46	5.07
Mayville	Red		.03											.02	.20	1.24	.65					.11	.15		.53	.20			.10			.47	3.70
Melville	James													.30		1.45	.03					.18	.10			1.42			T.			.49	3.97
Milnor	Red		T.	.06										.10	.73	1.10	.13					.50	.07			.07	.06			.05		1.63	4.50
Minot ‖	Mouse														.15								.50		.03	.02	.05						0.75
Minto	Red			.05												.85			.02				.23			.14	.34					.11	1.74
Mott	Cannon Ball													.53	.11		T.					.73				T.	T.	.02	T.		.05		1.44
Napoleon ‖	Missouri													.75	.15	1.10	.30	.02				.12	.45	.08		.03	.02					.40	3.42
New England	Cannon Ball	.12												.65	.20		.19				.14	.64			.04	.26	.03		.09			.33	7.69
New Salem	Heart		T.								.01			.84	.01		T.			.01		.34	.08			.02	T.		T.	.02		T.	1.33
Orange	Cannon Ball		.38											.67	.25	.10	.06					.56											2.02
Oriska	Sheyenne													.17		1.47							.45			.21	.12					.65	3.07
Park River	Red		T.	.29			T.	T.			T.				T.	1.00	.03			T.		.18	.14		T.	.19	.15	T.	T.			.22	2.20
Pembina ‖	Red				.02		T.		T.			T.				.02	T.						.20			.04	.22			T.		.08	0.58
Plaza	Missouri																																
Power	Sheyenne							.20							2.36															.42		1.31	4.29
Powers Lake	Missouri											.02	.06				T.					.12	.15	T.	.23	.10	T.					.04	0 72
Steele	Missouri	.06									T.			.73	.15	1.14						.66	.03	T.		.17	.02	T.	.15	T.		.24	3.35
Taylor	Heart																																
Towner	Mouse													T.	T.		T.		.14	.06		.30	.52			.40		.08				.11	1.61
Turtle Lake	Missouri													.30			T.					.50				.30					.25		1.35
University	Red		.01	T.				.07			T.			T.			.50	1.26				.13	.09			.11	.04		.03			.33	2.59
Wahpeton ‖	Red	T.		.06										.04	.03	1.43	.20					.03	.29	.39			.12			.18		.24	3.01
Walhalla	Pembina				.05												.38		.03				.21	.20	.25	.17						.21	1.50
Washburn	Missouri																																
Westhope	Mouse																					.04	.78	.04	T.	.27	.10	.04			.09		1.36
Williston ***	Missouri	.01	T.	T.						T.	.05			.09	.13	T.	.04				T.	.64		T.	T.	.14	.06		.08		.37		1.61
Willow City	Mouse			T.							T.									T.		.30	.42	.11		.15						.13	1.11
Zap	Knife	.01									.05			.76	.01							.28	.01			.52			.08			.03	1.75
Moorhead, Minn ***	Red		.05	.01							T.			.17	.74	.77	.02					.21	.52	.08		.04	.01					1.41	3.76

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	38	54	62	66	79	79	84	67	77	52	62	59	49	44	41	55	59	60	61	72	52	68	67	66	60	69	67	72	70	72	63	62.8
	Minimum	19	29	29	31	44	44	48	39	37	46	29	35	32	41	38	33	31	35	29	36	45	47	43	37	47	55	41	44	47	40	49	38.7
Aplin	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Ashley	Maximum	49	56	72	72	80	86	84	68	84	78	57	51	44	40	39	56	54	62	64	65	55	64	64	77	69	65	67	75	72	68	65	64.6
	Minimum	22	31	27	46	49	51	43	33	42	33	31	40	38	32	32	32	34	34	39	40	48	48	38	41	48	49	40	40	42	41	55	39.3
Beach	Maximum	52	51	78	77	80	86	66	74	83	51	53	55	50	45	55	53	60	66	70	68	67	64	62	57	65	57	66	65	70	75	66	64.1
	Minimum	23	21	28	42	41	46	40	22	43	32	25	24	33	35	36	33	27	37	33	43	48	39	33	42	42	32	40	40	40	47	44	35.9
Berthold Agency	Maximum	48	47	67	69	67	71	70	54	65	59	49	48	49	51	55	51	57	61	61	64	61	60	60	56	59	53	58	72	67	69	68	59.5
	Minimum	21	21	30	43	35	39	50	34	42	33	30	21	37	38	40	30	32	32	31	34	48	45	35	36	43	41	45	36	40	45	50	36.7
Bismarck	Maximum	51	49	76	75	83	89	73	71	87	57	55	59	45	49	51	60	58	65	69	70	54	65	65	63	64	62	68	76	67	72	72	65.2
	Minimum	25	30	29	50	43	49	41	36	46	38	34	37	38	39	39	31	34	36	37	46	49	45	40	40	45	46	43	45	43	46	54	40.5
Bottineau §§	Maximum	43	48	62	71	78	72	71	64	82	49	53	60	56	60	54	60	62	61	70	77	65	57	59	59	61	55	55	68	67	71	72	62.6
	Minimum	21	22	25	33	45	51	47	37	40	36	26	22	39	40	42	35	22	39	33	39	43	48	35	40	43	48	40	31	42	40	46	37.1
Bowbells §§	Maximum	45	45	77	71	78	80	60	65	78	55	51	60	54	56	59	65	60	66	71	74	55	60	67	52	55	50	57	62	65	70	65	62.2
	Minimum	21	27	29	38	38	45	43	34	38	36	26	24	31	35	34	30	28	30	35	35	38	44	38	38	38	39	37	35	38	39	43	35.0
Carson	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Colgate	Maximum	51	56	59	69	82	81	87	68	79	67	67	63	51	47	41	57	60	59	66	74	65	71	67	70	63	68	69	71	74	71	64	65.6
	Minimum	22	31	21	41	44	44	42	39	35	33	28	31	44	39	36	33	30	37	27	34	42	42	43	35	44	44	44	45	42	35	56	37.5
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	44	49	63	67	78	72	83	63	80	52	50	57	52	54	44	57	59	55	66	73	58	63	63	61	63	61	59	73	65	71	64	61.9
	Minimum	24	30	29	47	50	49	43	39	42	32	28	33	42	42	35	34	28	35	29	36	41	47	43	37	45	47	43	39	42	38	51	38.7
Dickinson	Maximum	50	46	75	75	80	84	77	77	82	53	59	56	59	52	59	59	58	67	71	74	57	62	69	69	60	57	65	74	67	72	69	65.6
	Minimum	20	25	27	44	43	47	48	28	39	31	36	35	32	36	39	35	40	32	33	39	49	46	37	40	41	36	38	40	40	52	46	37.9
Donnybrook	Maximum	45	47	70	72	79	74	70	66	80	54	52	58	52	56	57	59	61	62	68	75	71	62	60	54	57	53	69	..	59	70	70	[a]62.8
	Minimum	22	25	29	45	39	45	35	35	35	40	26	23	34	38	38	28	26	31	36	35	36	46	39	35	39	39	36	..	37	38	47	[a]35.2
Dunseith	Maximum	43	48	54	58	69	78	68	73	78	68	52	65	68	54	52	65	60	60	69	67	60	63	55	55	55	53	55	58	69	67	70	61.6
	Minimum	24	24	32	26	44	46	44	48	48	38	28	22	34	29	38	44	25	38	36	44	48	38	39	44	46	36	46	46	44	51	52	38.9
Edgeley	Maximum	48	55	73	71	82	87	90	69	84	83	58	55	51	43	39	57	56	62	66	70	59	68	65	67	64	67	68	76	71	71	69	65.9
	Minimum	20	31	25	49	43	53	41	39	37	35	31	40	40	33	33	33	32	38	32	32	48	48	41	40	50	52	39	42	44	40	55	39.2
Fessenden §§	Maximum	47	49	72	70	81	77	82	66	84	52	54	61	45	51	43	59	60	60	70	69	52	64	63	62	60	62	63	73	69	72	68	63.2
	Minimum	23	28	25	35	41	41	47	38	36	42	33	29	31	38	39	30	28	32	28	35	40	47	39	33	41	48	41	36	39	35	47	36.3
Forman	Maximum	49	53	67	70	84	91	95	69	85	85	69	54	54	45	42	58	56	60	69	72	64	69	68	72	68	73	72	..	78	72	70	[a]67.8
	Minimum	23	34	28	47	47	50	55	39	46	47	39	44	43	40	36	34	34	34	37	45	47	48	44	45	55	55	45	..	45	45	59	[a]43.0
Fullerton	Maximum	48	53	71	71	82	87	91	69	85	60	57	53	47	42	39	56	55	62	66	70	54	68	66	68	69	68	69	78	72	70	65	64.9
	Minimum	23	22	28	49	43	50	38	37	48	47	32	41	40	36	35	33	33	38	36	41	50	49	43	43	45	54	42	44	46	44	57	40.9
Garrison	Maximum	50	50	75	74	82	82	71	68	91	70	54	62	52	52	53	59	60	63	71	72	58	60	63	57	58	58	63	73	68	74	71	65.0
	Minimum	23	22	28	45	47	61	34	33	38	41	28	23	38	37	40	29	30	35	31	37	45	39	35	37	44	41	41	35	41	43	50	37.1
Grafton §§	Maximum	46	50	65	67	79	73	80	66	74	50	55	61	58	55	43	53	61	57	62	76	66	63	67	62	65	69	63	74	67	72	69	63.5
	Minimum	25	32	21	34	41	46	45	49	25	43	25	25	36	43	38	34	31	37	28	39	42	45	41	45	46	41	36	41	34	53	37	37.3
Granville	Maximum	48	48	72	72	80	77	47	65	65	55	55	60	50	60	55	60	62	62	62	72	60	65	62	62	65	58	64	72	70	75	72	63.0
	Minimum	25	35	28	47	42	47	42	42	37	30	34	25	30	32	41	32	28	28	30	35	38	34	32	42	39	43	40	35	40	39	44	36.0
Hannah	Maximum	46	45	52	67	78	75	60	63	75	63	56	60	61	60	56	55	51	60	63	65	68	70	68	60	60	62	57	62	61	72	70	62.2
	Minimum	22	24	28	36	41	46	41	38	34	40	25	25	32	37	33	32	28	31	33	35	36	37	43	41	42	48	41	39	40	39	52	36.1
Hansboro	Maximum	43	..	63	60	76	80	82	63	78	70	52	60	59	59	56	60	55	60	65	76	69	60	62	71	57	61	60	67	67	72	74	[a]64.2
	Minimum	22	..	52	50	51	40	45	40	33	34	27	25	32	38	40	30	25	26	25	34	35	42	52	42	40	39	29	38	38	32	54	[a]35.7
Hettinger	Maximum	54	48	74	77	79	84	77	72	73	43	58	55	44	40	53	49	56	66	67	62	58	57	63	62	62	63	63	76	74	74	71	63.0
	Minimum	27	28	27	43	40	53	47	27	40	37	24	36	32	36	37	34	31	33	33	42	47	39	37	40	45	37	39	32	34	46	49	37.2
Howard	Maximum	38	44	62	71	74	78	66	61	58	54	52	63	57	54	57	50	59	69	68	68	60	58	58	51	58	54	55	61	68	62	61	59.6
	Minimum	19	26	27	38	38	48	45	29	24	21	21	25	29	37	32	33	26	30	32	37	37	42	39	38	40	36	38	38	42	43	42	33.9
Jamestown §§	Maximum	47	56	76	85	82	81	89	70	85	57	58	59	47	45	40	58	58	59	67	71	52	70	67	63	61	66	67	74	69	74	75	65.3
	Minimum	22	23	23	24	29	50	49	40	45	45	32	35	41	40	34	33	31	35	32	41	50	47	40	38	44	51	43	47	45	40	48	38.6
Lakota	Maximum	42	47	62	65	76	68	77	64	71	68	51	58	50	50	40	53	57	53	62	70	55	64	62	62	62	62	58	62	63	67	68	60.3
	Minimum	23	32	24	45	46	45	43	40	35	38	26	30	40	40	35	34	24	37	27	32	41	42	43	43	43	52	42	34	40	34	40	37.1
Lamoine	Maximum	48	56	60	72	80	82	79	67	84	68	55	58	55	48	44	58	58	58	68	73	57	68	63	64	58	60	64	73	68	70	68	64.0
	Minimum	18	24	32	24	42	41	46	33	41	28	25	34	38	38	34	26	24	38	28	38	45	47	37	38	42	42	38	41	41	40	53	35.9
Langdon	Maximum	47	47	63	64	75	70	80	61	72	51	49	56	57	57	41	51	58	55	57	76	66	57	62	58	56	60	57	68	61	70	67	60.3
	Minimum	23	28	24	34	40	42	45	38	34	35	28	29	36	38	40	32	27	33	29	35	40	43	40	40	43	40	40	35	41	34	47	35.9
Larimore §§	Maximum	45	52	65	65	81	69	81	65	75	52	52	62	55	52	42	53	58	56	63	76	60	68	65	60	68	68	62	70	65	70	64	62.5
	Minimum	27	34	24	48	45	48	44	38	38	46	26	32	42	42	38	34	30	40	29	34	40	47	48	41	42	53	42	35	42	38	53	39.4
Lisbon §§	Maximum	49	65	68	70	70	93	80	70	84	59	60	55	58	53	42	60	59	58	65	72	62	71	67	70	65	71	69	75	72	72	65	66.1
	Minimum	21	32	26	36	48	45	47	38	40	42	28	39	43	40	38	33	31	38	30	43	46	48	43	40	50	53	45	40	42	43	42	39.7
McHenry	Maximum	44	49	68	67	81	74	84	64	84	63	54	61	50	53	54	54	59	55	67	76	54	65	64	64	61	64	62	74	65	72	66	63.6
	Minimum	22	32	24	45	49	48	42	39	41	35	28	31	40	39	35	33	27	38	39	36	39	43	39	38	45	50	42	37	41	39	53	38.4
McKinney	Maximum	48	47	80	75	81	76	70	75	84	59	54	62	60	57	60	60	63	65	70	78	70	69	64	55	58	57	61	71	70	65	77	65.8
	Minimum	23	32	32	45	42	46	36	37	33	54	32	24	32	39	40	29	28	32	33	34	35	49	40	39	40	42	40	36	38	30	50	36.8
Maddock	Maximum	45	49	68	70	80	77	81	66	84	83	55	60	58	54	54	60	61	69	69	75	72	63	64	62	60	61	62	73	68	73	71	65.7
	Minimum	21	26	28	46	44	47	48	37	34	40	26	26	40	40	38	31	25	41	26	35	36	48	40	35	44	48	41	37	40	35	53	37.3
Marmarth	Maximum	55	48	72	74	77	81	64	71	75	54	49	52	37	39	54	51	55	62	66	57	64	58	59	55	63	54	63	71	72	74	61	61.0
	Minimum	25	27	25	42	41	46	44	24	36	32	25	..	30	34	36	32	28	29	33	45	41	39	33	43	42	31	38	43	44	49	44	[a]36.0
Minot §§	Maximum	49	49	78	76	83	77	82	67	93	..	54	62	49	57	56	61	63	64	77	79	55	67	63	57	57	58	68	74	71	75	75	[a]66.5
	Minimum	26	25	31	37	43	42	49	38	39	41	31	26	33	40	42	32	32	38	35	39	40	47	41	37	42	43	42	35	40	40	44	37.7
Mott	Maximum	53	62	71	78	79	83	72	60	58	62	58	65	50	47	53	48	56	58	62	68	63	61	63	66	67	65	70	76	77	63	75	64.2
	Minimum	30	32	37	43	51	54	50	39	29	33	25	33	30	35	36	33	28	36	35	41	38	34	42	45	48	40	38	48	44	41	45	38.2
Napoleon §§	Maximum	50	55	73	76	83	88	82	71	86	57	58	56	44	43	41	59	57	65	69	70	52	67	68	67	64	65	69	77	70	72	67	65.2
	Minimum	17	24	23	31	42	50	48	35	39	42	27	31	36	35	33	30	32	32	28	35	45	47	38	38	45	46	40	41	40	41	44	36.6
New England	Maximum	52	48	74	76	78	85	55	75	80	70	53	57	48	44	55	50	60	65	72	67	55	58	61	60	68	59	65	70	74	76	70	63.9
	Minimum	23	15	29	43	41	43	39	28	27	27	25	32	32	36	37	33	30	35	33	40	39	39	33	41	44	37	39	41	42	41	50	35.4
New Salem	Maximum	53	48	75	75	83	87	72	75	85	64	53	65	59	45	57	58	53	57	68	65	55	65	63	64	65	59	74	65	74	72	71	65.3
	Minimum	20	24	29	46	47	53	48	47	36	34	27	39	33	35	30	27	29	32	30	40	45	42	32	38	42	39	42	44	42	40	50	37.5
Orange	Maximum	50	48	75	75	79	84	67	72	87	50	55	53	41	40	52	50	55	64	67	60	52	58	63	62	70	60	65	74	71	72	70	62.6
	Minimum	25	27	28	42	41	53	48	27	40	38	28	35	32	37	35	30	31	34	32	41	42	39	37	40	45	41	40	40	40	46	47	37.4
Oriska	Maximum	51	55	68	68	81	78	87	66	81	50	58	58	48	44	39	55	58	57	67	70	58	70	66	65	63	71	68	75	77	71	62	64.0
	Minimum	21	33	26	48	46	52	55	35	31	45	32	39	35	38	37	34	31	37	31	30	47	48	38	40	48	46	46	44	46	38	49	39.6
Park River	Maximum	45	49	57	68	80	71	80	64	75	70	54	60	57	56	54	52	60	57	60	76	70	62	65	62	63	64	61	72	70	72	66	63.6
	Minimum	29	35	..	60	45	45	45	..	31	..	28	30	38	35	37	36	..	32	29	33	40	48	46	43	45	52	44	39	43	37	54	[a]40.0
Pembina §§	Maximum	48	44	71	71	81	72	81	68	71	54	57	62	69	66	44	53	61	52	57	79	67	54	58	61	62	68	64	68	61	78	67	63.6
	Minimum	32	36	28	48	41	46	44	42	44	41	36	36	38	42	41	36	34	41	32	34	49	46	37	43	41	43	38	41	42	34	49	39.8
Power	Maximum	..	..	..	..	..	..	..	..	..	..	63	64	54	60	56	58	57	60	64	73	72	75	70	71	69	71	70	72	78	73	65	[a]66.1
	Minimum	30	34	34	32	38	37	36	39	50	29	38	41	36	39	38	33	36	39	40	40	47	41	41	42	40	39	40	50	39	40	55	39.1
Towner	Maximum	46	49	72	72	80	73	74	66	84	79	52	59	69	51	53	59	61	62	71	77	70	57	62	60	57	57	59	72	67	73	72	65.2
	Minimum	25	23	27	46	44	49	48	37	39	39	34	30	40	40	44	32	30	37	28	38	48	49	41	38	36	46	42	35	40	40	53	38.3
Turtle Lake	Maximum	50	48	74	74	82	82	74	68	84	62	54	58	55	50	50	60	58	62	65	74	56	64	62	60	56	58	64	73	67	75	71	64.2
	Minimum	25	26	28	47	47	42	60	35	43	32	31	30	39	38	40	30	30	30	34	40	45	41	36	38	42	28	40	40	43	42	52	37.9
University	Maximum	45	51	63	68	80	70	84	65	72	58	55	61	57	52	43	52	59	57	60	74	61	69	66	63	71	69	63	71	66	70	64	63.1
	Minimum	26	31	25	47	46	49	46	38	34	35	32	32	43	43	36	32	32	25	29	36	45	47	48	39	48	51	45	42	44	40	51	39.6
Wahpeton §§	Maximum	48	51	67	69	85	85	89	68	84	60	62	58	58	59	43	38	41	46	55	52	55	67	65	74	68	74	72	72	73	70	65	63.7
	Minimum	28	30	28	38	47	45	52	38	42	47	29	43	43	40	33	34	30	35	30	44	50	47	44	43	44	53	44	43	44	39	56	40.8
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	44	70	72	73	79	74	69	82	68	67	68	62	63	62	58	62	64	64	72	75	63	62	59	57	60	62	64	68	69	68	71	66.2
	Minimum	27	28	44	40	41	42	48	49	43	42	42	26	42	39	41	31	26	39	31	42	32	31	41	38	42	41	38	42	40	41	39	38.3
Williston	Maximum	42	50	77	75	79	83	62	69	75	55	52	59	47	53	56	54	60	66	70	73	57	59	61	56	61	52	59	68	66	70	61	62.2
	Minimum	23	31	35	43	40	46	41	33	46	35	30	28	37	39	34	36	30	38	38	41	51	44	40	42	44	41	48	38	42	44	48	38.9
Willow City	Maximum	44	45	64	69	77	72	72	65	80	62	52	72	55	59	54	59	60	59	68	75	65	57	61	56	57	55	57	69	65	72	72	62.8
	Minimum	27	23	25	41	39	47	48	38	35	39	28	24	35	39	42	32	22	39	27	36	40	48	39	37	46	46	40	33	39	34	55	36.8

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JULY 31, 1916.

Departure of the Mean Temperature from the Normal, June, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., JUNE, 1916. No. 6.

GENERAL SUMMARY.

The weather was generally too cool for best results in crop growth. Small grains did fairly well, excessive stooling being caused by continued low temperatures. This also resulted in much short grain. The mean temperature for the month, 58.0°, was, with but one exception, the lowest in the climatological history of the State. All stations reported mean temperatures below the normal. The sunshine was also slightly below the average. The rainfall was ample for all needs generally, too much for best results occurring in the eastern part of the State. At the close of the month small grains were in good condition, but somewhat late, corn was very backward, and flax was coming nicely. Hay and pastures were in excellent condition, and livestock on the ranges were generally fat.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.88 inches. The highest was 30.21 inches at Bismarck, Burleigh County, on the 12th; the lowest was 29.42 inches at Devils Lake, Ramsey County, on the 23d.

TEMPERATURE.

The mean temperature for the State was 58.0°, or 5.1° below the normal, and 1.3° higher than the mean for June, 1915. The highest mean reported was 62.0° at Power, Richland County; the lowest was 53.4° at Eckman, Bottineau County. The highest temperature reported was 92° at Granville, McHenry County, on the 27th; the lowest was 29° at Beach, Golden Valley County, on the 2d, Cando, Towner County, and Hannah Cavalier County, both on the 4th. The greatest monthly range of temperature was 57° at Granville, McHenry County; the least was 29° at Steele, Kidder County. The greatest daily range was 45° on the 4th at Cando, Towner County. Generally the highest temperature occurred on the 27th or 30th, and the lowest on the 2d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 70 per cent, the average at 7 a. m. being 82 per cent, and at 7 p. m. 58 per cent.

PRECIPITATION.

The average precipitation for the State was 3.89 inches, or 0.45 inch above the normal, and 1.11 inches less than the average for June, 1915. The greatest monthly amount reported was 6.78 inches at Forman, Sargent County; the least was 1.50 inches at Bismarck, Burleigh County. The greatest amount recorded in any twenty-four consecutive hours was 2.65 inches at Turtle Lake, McLean County, on the 28th. All of the precipitation occurred in the form of rain, not even a trace of snowfall being reported. The average number of days with 0.01 inch or more of precipitation was 11. The distribution of precipitation was quite uniform throughout the month, and fairly so over the State. Stormy periods were the 5th-6th, 10th to 17th, 21st to 25th, and 28th to 30th, inclusive. Thundershowers were frequent, but no serious loss of property was reported.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.9 miles. The greatest wind movement was 7,736 miles at Williston, an average of 10.7 miles per hour; the least was 5,811 miles at Moorhead (Minn.), an average of 8.1 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 70 miles per hour at University on the 22d.

SUNSHINE AND CLOUDINESS.

Nearly normal sunshine prevailed; the average number of clear days was 10, partly cloudy days 11, and cloudy days 9.

ERRATA, MAY, 1916.

Page 36: University, mean temperature and departure should be 51.2° and −2.5°.

Page 38: University, minimum temperature should be 43° on the 25th, and mean minimum, 39.4°.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	60.5	−2.6	94	28	3.55	−0.09	10	8	11	9	nw.
1893...	67.4	+4.3	103	33	3.38	−0.06	9	13	10	7	s.
1894...	68.8	+5.7	103	25	3.44	0.00	7	17	6	7	sc.
1895...	59.7	−3.4	97	29	4.67	+1.23	12	8	13	9	nw.
1896...	65.6	+2.5	97	37	3.80	+0.36	9	16	9	5	s.
1897...	61.7	−1.4	109	20	3.75	+0.31	9	11	10	9	sc.
1898...	62.6	−0.5	105	26	3.19	−0.25	9	10	10	10	nw.
1899...	62.2	−0.9	105	30	3.81	+0.37	10	12	11	7	w.
1900...	66.9	+3.8	109	27	1.39	−2.05	5	15	11	4	sc.
1901...	61.6	−1.5	95	22	6.16	+2.72	15	10	11	9	nw.
1902...	58.0	−5.1	97	28	3.65	+0.21	11	12	9	9	nw.
1903...	62.4	−0.7	96	27	1.44	−2.00	4	17	8	5	sc.
1904...	61.4	−1.7	100	30	5.77	+2.33	11	13	8	9	nw.
1905...	59.7	−3.4	97	32	4.52	+1.08	12	10	7	13	nw.
1906...	62.0	−1.1	95	32	4.06	+0.62	11	13	8	9	nw.
1907...	61.9	−1.2	95	25	2.85	−0.59	10	12	10	8	nw.
1908...	60.4	−2.7	93	27	3.37	−0.07	10	12	9	9	nw.
1909...	62.9	−0.2	98	28	2.21	−1.23	10	12	11	7	e.
1910...	67.3	+4.2	111	19	1.83	−1.61	6	16	9	5	sc.
1911...	66.9	+3.8	108	25	3.12	−0.32	9	13	10	7	sc.
1912...	61.8	−1.3	104	28	2.05	−1.39	6	16	8	6	nw.
1913...	65.8	+2.7	101	27	2.35	−1.09	8	16	9	5	sc.
1914...	62.2	−0.9	93	29	6.26	+2.82	13	9	11	10	sc.
1915...	56.7	−6.4	94	20	5.00	+1.56	12	9	12	9	nw.
1916...	58.0	−5.1	92	29	3.89	+0.45	11	10	11	9	nw.

Climatological Data for June, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Alexander	McKenzie	.....	1	57.4	.....	80	†17	34	2	35	3.89	.....	0.91	0	11	2	21	7	nw.	.....
Amenia	Cass	954	20	57.4	−3.7	85	30	38	5	34	3.63	−0.20	0.93	0	9	12	7	11	s.	E. T. Carley.
Ashley	McIntosh	2,001	19	57.8	−4.8	83	23	38	4	36	4.19	+0.57	1.30	0	10	16	7	7	nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	57.9	.....	81	† 9	29	2	43	4.27	.....	1.04	0	13	13	13	4	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	22	56.2	−7.1	80	9	34	† 2	40	4.84	+0.72	2.01	0	12	17	7	6	nw.	C. L. Hall.
Beulah	Mercer	1,910	9	.....	.....	.....	.....	.....	.....	.....	5.35	.....	2.45	0	5	.....	.....	.....	.....	.....
Bismarck	Burleigh	1,674	42	59.2	−5.0	82	30	38	2	37	1.50	−2.04	0.65	0	11	8	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	57.3	−0.8	78	9	32	2	38	3.05	−0.36	0.73	0	13	12	8	10	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	55.8	.....	78	9	35	† 2	39	4.21	.....	1.70	0	11	17	3	10	.....	G. H. Phelps.
Bowman	Bowman	.....	2	57.5	.....	83	28	33	7	36	4.66	.....	1.27	0	12	14	2	14	.....	L. S. Diehl.
Buford	Williams	1,944	37	59.2	−5.1	84	27	35	2	36	4.99	+2.18	1.13	0	9	10	15	5	e.	P. Elmore.
Candо	Towner	1,488	15	60.2	−0.7	84	†10	29	4	45	3.87	−0.09	0.90	0	11	.....	.....	.....	.....	E. T. Judd.
Carson	Morton	.....	4	60.3	.....	76	† 5	35	6	27	3.46	.....	1.36	0	9	7	17	6	nw.	J. W. Evens.
Colgate	Steele	1,177	2	59.4	.....	80	9	35	2	38	4.91	.....	2.10	0	13	8	11	11	nw.	S. N. Grimwood.
Cooperstrwn	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	4.60	.....	1.55	0	8	15	9	6	nw.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	57.5	−5.1	78	30	37	4	32	4.14	+0.61	1.12	0	10	7	8	15	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	56.8	−5.2	84	27	32	8	37	3.77	+0.90	1.42	0	16	11	4	15	w.	L. R. Waldron.
Donnybrook	Ward	1,760	17	56.5	−5.0	78	27	32	2	40	2.76	−0.06	0.58	0	9	.....	.....	.....	.....	Geo. Michel.
Dunseith	Rolette	1,682	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Lamont.
Eckman	Bottineau	.....	11	53.4	.....	83	13	31	† 4	46	2.77	.....	0.52	0	10	9	11	10	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	58.8	−4.4	81	30	35	4	35	2.56	−0.78	1.24	0	8	3	13	14	nw.	O. A. Thompson.
Energy ††	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	5.05	.....	2.28	0	14	6	17	7	nw.	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	5.81	.....	1.70	0	11	14	9	7	w.	M. E. Uggen.
Fessenden	Wells	1,610	4	56.7	.....	80	30	33	2	38	4.00	.....	1.20	0	12	9	10	11	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	60.9	−4.7	86	30	41	2	30	6.78	+3.41	1.80	0	16	8	9	13	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	59.4	−3.6	84	30	40	19	32	3.51	+0.38	1.08	0	10	7	9	14	nw.	F. O. Alin.
Garrison	McLean	1,901	21	57.5	−5.3	79	27	35	2	41	5.13	+1.78	1.10	0	14	8	11	11	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	57.9	.....	80	27	36	2	36	4.54	.....	1.10	0	10	7	13	10	nw.	C. H. Layman.
Grafton	Walsh	827	24	58.4	−4.9	82	30	34	† 2	38	3.47	+0.12	1.16	0	12	11	8	11	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	58.4	.....	84	30	35	4	35	2.45	.....	1.35	0	3	15	10	5	nw.	G. H. Leick.
Granville	McHenry	1,504	9	60.1	.....	92	21	35	7	45	3.12	.....	0.50	0	11	.....	.....	.....	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	11	56.2	.....	76	†27	29	4	43	5.04	.....	1.12	0	11	12	10	8	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	56.4	.....	78	13	32	† 2	40	3.03	.....	1.00	0	10	8	13	9	ne.	C. E. Blackorby.
Hettinger	Adams	2,253	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogaard.
Hillsboro	Traill	901	10	59.1	.....	81	31	38	2	33	3.44	.....	1.10	0	12	11	14	5	nw.	F. E. Mayall.
Howard	Williams	2,275	7	56.6[g]	.....	80[n]	27	32	6	39[m]	1.99	.....	0.98	0	10	6	18	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	58.4	−5.2	82	30	37	2	43	2.58	−1.18	0.60	0	12	7	8	15	nw.	S. Calvelage.
Lakota	Nelson	1,579	15	54.8	−7.3	76	13	32	4	34	3.65	+0.20	0.90	0	8	9	16	5	ne.	C. R. Pettes.
Lamoine	Kidder	1,936	8	56.0	.....	79	30	31	2	38	2.76	.....	1.03	0	5	12	8	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	20	55.8	.....	77	†27	31	4	34	2.65	.....	0.87	0	13	17	5	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	58.2	−4.4	80	30	35	2	35	5.09	+1.64	1.70	0	9	12	6	12	nw.	G. G. Graham.
Lisbon	Ransom	1,091	12	59.6	−3.6	85	30	38	2	38	5.03	+1.03	2.00	0	11	14	3	13	nw.	W. S. Adams.
McHenry	Foster	1,509	6	57.2	.....	79	30	34	6	40	4.70	.....	1.60	0	8	17	9	4	e.	P. E. Trudeau.
McKinney	Renville	1,640	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. P. Swenson.
McLeod	Ransom	1,075	4	61.8	.....	88	30	41	2	32	5.52	.....	2.00	0	11	9	10	11	nw.	E. W. Griggs.
Maddock	Benson	.....	1	57.4	.....	77	†13	32	† 2	38	3.94	.....	1.08	0	11	10	0	20	sw.	W. M. Jackson.
Mandan	Morton	1,644	2	59.2[b]	.....	79[b]	†13	38[a]	2	39[b]	2.25	.....	1.17	0	13	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	57.5	−5.1	78	† 9	37	2	38	4.55	+1.12	2.22	0	10	11	13	6	nw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	5.76	.....	1.70	0	8	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	55.8	.....	80	†17	33	2	42	3.09	.....	0.82	0	12	.....	.....	.....	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	56.6[e]	.....	79[e]	30	33	2	38[e]	3.85	.....	1.15	0	7	6	17	7	nw.	H. H. McCumber.
Mayville	Traill	975	20	59.6	−5.7	82	30	36	2	36	4.71	+1.70	0.98	0	12	12	7	11	nw.	W. C. Gould.
Melville	Foster	1,590	18	54.9[f]	−8.2	78[b]	30	40	19	30[f]	2.79	−0.63	1.22	0	6	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	5.53	.....	1.73	0	8	7	13	10	nw.	Hj. Edman.
Minot	Ward	1,557	20	59.3	−4.0	84	13	34	8	44	3.29	+0.05	0.90	0	14	4	17	9	sw.	W. I. Faris.
Minto	Walsh	820	23	58.6	−5.3	82	†10	33	2	39	2.61	+0.73	1.05	0	6	10	5	15	ne.	C. M. Evans.
Mott	Hettinger	2,424	9	60.2	.....	83	†27	24	8	39	2.87	.....	0.76	0	7	8	12	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	57.2	−8.2	86	30	35	4	37	3.13	+0.65	0.80	0	16	4	9	17	nw.	C. J. Hoof.
New England	Hettinger	2,400	22	56.1	−6.3	85	28	31	6	45	2.88	+0.37	0.97	0	12	7	16	7	nw.	J. M. Connolly.
New Salem	Morton	2,163	11	56.2	−8.0	78	30	35	† 2	36	4.04	+0.07	1.60	0	13	5	19	6	ne.	J. Christiansen.
Orange ††	Adams	2,586	7	57.0	.....	81	27	32	8	41	2.56	.....	0.94	0	9	13	9	8	nw.	J. E. Goforth.
Oriska	Barnes	1,270	11	60.0	−3.9	87	30	35	3	37	4.05	+0.99	1.19	0	9	10	15	5	nw.	J. J. Taylor.
Park River	Walsh	998	12	58.8	−5.4	80	30	36	† 2	39	3.20	−0.34	1.09	0	8	13	8	9	nw.	F. A. McCray.
Parshall	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	3.09	.....	0.63	0	8	8	16	6	nw.	.....
Pembina	Pembina	789	42	60.4	−2.3	88	30	36	† 4	38	3.50	−0.15	0.86	0	12	9	13	8	sw.	C. W. Shumaker.
Power	Richland	1,020	24	62.0[i]	−2.3	79[i]	19	40[i]	20	34[i]	5.30	+0.82	2.15	0	7	.....	.....	.....	nw.	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	3.69	.....	0.95	0	7	17	6	7	se.	C. Frank.
Steele	Kidder	1,857	19	60.7[a]	−2.0	76[a]	†27	47	† 6	26	5.00	+1.67	1.60	0	17	7	19	4	nw.	H. S. Wood.
Taylor	Stark	2,493	.....	58.4	.....	89	26	35	14	38	3.23	.....	1.63	0	18	6	19	5	nw.	H. Leutz.
Towner	McHenry	1,482	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. Bagley.
Turtle Lake	McLean	1,899	4	57.6	.....	80	27	37	† 2	36	5.15	.....	2.65	0	9	9	17	4	nw.	E. J. Jones.
University	Grand Forks	830	24	58.6	−4.8	81	30	35	2	35	3.40	−0.13	1.42	0	11	10	13	7	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	69.0	−5.6	87	30	40	† 2	30	4.63	+0.72	2.15	0	12	13	6	11	nw.	F. E. Smith.
Walhalla	Pembina	966	9	58.5[d]	.....	84[d]	30	34[d]	2	41[d]	2.18	.....	0.64	0	10	8	11	11	w.	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	57.2	.....	78	† 9	36	† 1	39	3.10	.....	0.63	0	11	8	18	4	se.	W. A. Meddaugh.
Williston	Williams	1,875	37	58.6	−4.9	80	27	37	2	34	4.73	+1.16	1.37	0	14	6	13	11	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	55.9	−5.9	78	27	33	2	38	3.12	−0.41	0.91	0	13	5	21	4	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	57.0	.....	83	27	34	† 2	.....	5.87	.....	2.09	0	11	13	6	11	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	60.3	−4.0	84	30	40	2	30	4.28	+0.15	2.27	0	14	10	11	9	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	58.0	−5.1	92	27	29	† 2	.....	3.89	+0.45	2.65	0	11	10	11	9	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for June, 1916.

Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri					.30	.61				.04				.21		.06	T.				.51	.63	.91		.05			.27		.30		3.89
Amenia ‖ ‖	Red	.82				T.	.68						.23	T.	T.	T.							.44	.13		.22	.10		.10	.93			3.63
Ashley	Missouri	.10			.20	.77	.06					.66	.03		T.			T.			.20		1.30	.24			.63						4.19
Beach	Lit. Missouri				.02	.53	.24				T.				.04	.08		.02		.16	.20	.86	1.04	T.				.28	.48		.32		4.27
Berthold Agency	Missouri					.28	.10				.06	.08			.06		.05	.02			T.	.48	.10	2.01					.93	T.	.67		4.84
Beulah	Missouri					.50																.85		2.45							1.55		5.35
Bismarck ***	Missouri		T.		.06	.14	T.				.11	.05			.05		T.	T.			.05	.05	.43	.25		.01		T.	.30	T.			1.50
Bottineau ‖ ‖	Mouse						.35	.15	.03			.40	T.	T.	.05	.20	T.	.05					.21	.73	.22		.01			.25	.40		3.05
Bowbells ‖ ‖	Mouse					.07	.38	.06			.12				.23								1.70	.60	.03	.29			.62		.11		4.21
Bowman	Grand	.04				.39	.08	.06				.23				.18			.92		.97	.07	.67	1.27				.38					4.66
Buford	Missouri				.30	.31	.63	T.		T.					.02		T.	T.				.78	.60	.92					.30	1.13			4.99
Cando	Sheyenne					.90	.10	.04				.65		.01	.15	.42											.87			.23	.01	.49		3.87
Carson	Heart					.55	.08				.52	.10									.60		.14	1.36		.05							3.46
Colgate	Sheyenne			.04		.32	.32				T.	.82	.01		.05	.06							.21	.55	.02	.08		T.	2.10	.33			4.91
Cooperstown	Sheyenne					.80						.85				.10							.60	.50		.10			1.55	.10			4.60
Crosby	Mouse																																
Devils Lake ***	Sheyenne			T.		1.04		T.				.41		.10	.36	.01	T.	.01				T.	1.10	.23	T.	T.			.57	T.	.31		4.14
Dickinson	Heart		T.			.03	.57	.10	T.		.01	.15		T.	T.	.12	T.	T.	.12		.40	.14	.33	1.42	.04	.03		.08	.17	T.	.06		3.77
Donnybrook	Mouse					.25	.06				.36											.25	.58	.34	.10				.47		.35		2.76
Dunseith	Mouse																																
Eckman	Mouse					.20	.12				.34	10		T.	T.		T.					.41	.42	.52	.02				.41	T.	.23		2.77
Edgeley	James					.69	T.				.05				.17	T.					.09		1.24	.13				.13		.06			2.56
Energy	Missouri			T.	T.	.40	.03				.37	.04		.11	.12		T.	T.			.02	.23	.09	1.20	.02			.04	2.28	.10			5.05
Epping	Missouri			.02	T.	.20	1.05				.05			T.			T.					.87	1.70	.55		.21		.24	.44		.48		5.81
Fessenden ‖ ‖	James	.03	T.			T.	.90	T.				.58			.10	.04	T.	.05				T.	.09	.49	.13	.37	T.		T.	1.20	.02		4.00
Forman	Sheyenne	.10		.06		.40	.25					.39	.32		.20	.25		.05			.10		1.80	.72		.07		.07	1.10	.90			6.78
Fullerton	James	.05		T.	T.	.48		T.			.06	.12	.25		.36	T.		T.			T.		1.08	.30				.18		.63			3.51
Garrison	Missouri				T.	.59	.05			.35	.20			.20	.03	T.	.09					.58	.08	1.10	.20			T.	.98		.68		5.13
Goodall	Missouri					.65	.10								.26		.21					.70	.55	1.10		.10			.35		.52		4.54
Grafton ‖ ‖	Red	.09		.02		.03	.43						.35		.03	.05								.75	.19		.13			.24	1.16		3.47
Grand Rapids	James		T.			.55	T.	T.			T.	.55	T.		T.	T.							1.35	T.		T.			T.				2.45
Granville	Mouse					.30					.25	.12	T.	.14	.10	T.						.24	.50	.37	.42				.25		.43		3.12
Hannah	Pembina					1.13	.16	T.				.47			.25	.30						.09		1.12	.23	.46			.30		.47		5.04
Hansboro	Red					.60		.20				.20		.15		.23		.10				.20	.10	1.00					.25				3.03
Hettinger	Grand																																
Hillsboro	Red			.11		T.	.46	.03				.17			.31								.67	.08	.12	.11			1.10	.36	.02		3.44
Howard	Missouri			T.		.02	.98	1.		T.		T.	T.	T.	.10		.01	T.			.02		.14	.18	T.	T.		.10	.20		.23		1.99
Jamestown ‖ ‖	James	.14					.55						.40			.02		.01	.03				.08	.60	.10	.12			.08	.40			2.58
Lakota	Sheyenne			T.		.65	.05	T.				.35		T.	.05	.05	T.					T.	.75	.85					.90	T.			3.65
Lamoine	Missouri											.10	.87			T.	T.						T.	T.			1.03		.76	T.			2.76
Langdon ‖ ‖	Pembina	.04		T.			.88	.05	T.				.18		.15	.11	.15	.01					.02	.87	.10	T.	.08		T.				2.65
Larimore ‖ ‖	Red	.50					.68						.60			.07	.10							.94			.14			1.70	.36		5.09
Lisbon ‖ ‖	Sheyenne	.78				T.	.40	.02				T.	.86	.10		.14	T.	T.					.55	.17	.02		T.	.05		2.06			5.03
McHenry	James					1.15		T.				.40		T.	.10	.05							1.00	.20	.10				1.60				4.70
McKinney	Mouse																																
McLeod	Sheyenne					.36	.45					.23	.15	.01		.45					.05	1.45	.10						2.00	.25			5.52
Maddock	Sheyenne					1.08	.01					.34				.17						.0.	.10	.48	.10	.13			.68		.81		3.94
Mandan ‖ ‖	Missouri					.05	.20	T.			.01	.04	T.		.01	.03			T.		.03	.0.	.03	1.17	.04		.01			.54	T.		2.25
Manfred	Sheyenne					.23	T.				T.	.40			.02	.04			.04				.46	.68		.24			2.22		.17		4.55
Manning	Knife					.54									.23							.40	1.11	1.4					1.70	.08			5.76
Marmarth	Lit. Missouri			T.	T.	.55	.12				T.	.21		T.	T.	.06		.22	T.	.20	.31	.32	.15	.07		T.		.82		.06			3.09
Marstonmoor	James			T.		1.11	.03	T.			T.	.47		T.	T.	T.					T.	T.		.88		.21		T.	1.15		T.		3.85
Mayville	Red	.05					.98					.18	.70		.03	.15							.48	.41		.25			.62	.64	.22		4.71
Melville	James					1.22						.22			T.	T.		.12					.21	.32		T.			.70				2.79
Milnor	Red			T.		T.	.50					.30	.21		T.	.38	T.	T.			.38		1.48	.55				T.	T.	1.73			5.53
Minot ‖ ‖	Mouse						.30				.02	.43			.03	.05						.05	.60	.90	.05	.20			.01	.35	.30		3.29
Minto	Red													.04									.20	1.05		.05			.52		.75		2.61
Mott	Cannon Ball					.62				.06		T.		T.	.13		.31			T.	.68			.76				.22					2.78
Napoleon ‖ ‖	Missouri	.12					.80	.08				.07	.65	.06	.15	.05		.0				.07	.25	.28	.10		.02	.28		.03			3.13
New England	Cannon Ball					.58					.13	.15		.04				.18			.97	.06	.00	.37				.23	.04		.05		2.88
New Salem	Heart				T.	.40	.01				.23	-19			.08	.02		T.			.07	.12	.10	1.60	.01	.0.			1.20				4.04
Orange	Cannon Ball					.40	.01					.05	.40				.1	.01			.94			.43				.15					2.56
Oriska	Sheyenne			.02		.59					T.	.86	.03		T.								.35	.90		.00			1.19		.05		4.05
Park River	Red		T.			T.	.75					.49		T.	.02	T.							.06	1.05		.15			.25		.39		3.20
Parshall	Missouri				.33					.21					.16								.63	.16	.60				.37		.63		3.09
Pembina ‖ ‖	Red	.02			T.		.34	T.					.10		.12	.02	.0.							.80	.10	.12	.24		T.	.18	1.40		3.50
Power	Sheyenne											1.54				.02			.06				1.46	.04				.03	2.15				5.30
Powers Lake	Missouri	T.			T.									T.	.65		T.					.76	.95	.45	.24	T.			T.	.24	.40		3.69
Steele	Missouri				.44	.03	.04	T.				1.10	1.60	.10		.05	.02	T.		.01	T.	.05	.60	.27		.02	T.	.0.	.55	.02	.05		5.00
Taylor	Heart				.02	.41	.02				.08	.08			.09	.02	.06	.01			.48	.09	.02	1.63		.01		.02	.14	.01	.04			3.23
Towner	Mouse																																
Turtle Lake	Missouri					.25	T.				.25	T.		T.	T.							.20	.35	.90	.30	.15		.10	2.65				5.15
University	Red			T.		.45	.04		T.			.63		.02	.01	.18							.10	.15		.26			1.42		.06		3.40
Wahpeton ‖ ‖	Red	.76			T.	T.	.25		.15	T.			.04	.05		.12	.0.						.58	.20	.22	.06			T.	2.15			4.63
Walhalla	Pembina			.03			.45					.17	.09		.07	.15		T.					.03	.64					.02		.53		2.18
Washburn	Missouri																																
Westhope	Mouse					.09	.25	.02			.26	.14		.17	T.	T.						.29	.35	.61					.29		.63		3.10
Williston ***	Missouri			T.	.01	.37	.41	T.		T.	.03			.06	.10		.07	T.			T	.40	1.04	.51	T.	.28		.01	.46	.98			4.73
Willow City	Mouse					.32	.06				.18	.12		.15	.22	.04		.03				.20	.12	.91		T.			.26		.51		3.12
Zap	Knife					.43	.01				.10	.27		T.			T.	T.			.10	.91	.11	2.09		.02			1.50		.27		5.87
Moorhead, Minn ***	Red			.03		.78	.34		.01			.07	.01	.04	.04	.19							.12	.07		.25		.06	2.27				4.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	65	59	73	70	76	53	68	74	78	67	66	70	75	69	70	79	80	73	71	64	58	57	58	77	66	74	80	76	69	76	....	69.7
	Minimum	38	34	43	41	50	41	41	34	46	52	39	41	45	37	42	41	46	46	50	51	48	49	48	42	41	41	49	62	58	52	....	45.1
Amenia §§	Maximum	55	71	70	73	72	63	63	66	77	78	74	72	75	73	67	65	69	68	70	68	64	60	60	75	72	76	67	75	79	85	....	67.2
	Minimum	48	40	46	41	38	49	45	49	45	49	56	43	47	52	49	47	44	40	41	41	47	51	51	46	44	48	49	60	59	62	....	47.6
Ashley	Maximum	59	66	62	71	74	60	64	67	74	70	61	63	71	64	69	70	73	67	68	61	62	58	59	72	73	73	75	83	77	81	....	68.2
	Minimum	48	39	50	28	50	42	44	40	43	49	49	46	43	47	42	46	44	44	40	48	52	50	48	46	48	47	52	61	60	69	....	47.4
Beach	Maximum	58	72	70	74	65	59	69	73	81	70	68	72	77	75	71	81	81	77	70	56	58	55	78	70	78	74	81	75	74	79	....	71.4
	Minimum	38	29	47	43	47	37	37	34	48	52	43	35	46	37	42	41	46	46	50	51	48	48	38	54	38	39	56	60	52	50	....	44.4
Berthold Ageney	Maximum	61	62	62	70	70	61	51	73	80	67	66	63	63	56	66	65	78	71	70	65	59	58	57	77	63	78	77	70	71	77	....	66.9
	Minimum	35	34	50	35	50	42	44	34	40	52	47	41	47	41	45	34	44	42	43	49	49	52	48	41	51	44	55	61	60	52	....	45.4
Bismarck	Maximum	59	72	71	68	66	59	66	74	78	75	70	66	76	77	67	72	76	70	70	61	62	59	60	77	73	74	79	74	78	82	....	70.2
	Minimum	45	38	47	41	51	44	45	59	41	53	51	41	40	47	47	42	48	47	44	50	52	53	50	46	52	48	58	62	60	62	....	48.1
Bottineau §§	Maximum	63	70	66	72	66	58	61	75	78	72	62	70	76	73	66	71	73	72	70	70	56	58	54	71	71	75	77	69	70	77	....	68.7
	Minimum	39	32	48	35	48	45	43	37	45	53	47	42	45	41	45	44	48	44	42	54	50	51	48	41	46	44	50	60	53	57	....	45.9
Bowbells §§	Maximum	69	70	65	71	63	50	62	75	78	72	65	70	77	77	67	76	74	69	68	68	71	55	56	72	66	73	77	69	64	71	....	68.7
	Minimum	38	35	43	37	48	41	41	36	45	50	50	42	43	38	40	40	46	45	39	37	37	35	45	42	53	42	52	58	57	55	....	43.0
Carson	Maximum	70	70	70	70	76	55	65	70	75	75	66	60	70	70	60	74	75	66	65	56	64	58	57	70	75	70	75	74	75	76	....	68.4
	Minimum	50	50	52	55	52	35	45	50	60	58	52	50	50	54	49	49	48	49	54	52	52	53	51	51	52	51	60	59	59	63	....	52.2
Colgate	Maximum	61	73	74	74	73	63	64	74	80	77	70	69	75	75	69	67	74	75	72	66	66	66	59	74	74	78	71	72	70	70	....	71.1
	Minimum	47	35	49	37	51	48	46	47	41	42	54	45	43	57	56	46	55	57	42	36	40	45	51	44	55	44	46	58	56	58	....	47.7
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Devils Lake	Maximum	59	69	67	69	70	58	60	69	76	76	61	69	77	69	63	64	66	68	68	68	60	56	57	71	72	72	75	64	73	78	....	67.5
	Minimum	42	38	44	37	51	45	46	44	45	51	50	47	48	48	48	46	47	43	39	41	45	51	49	45	52	48	56	56	59	62	....	47.5
Dickinson	Maximum	62	66	68	71	65	58	62	69	73	73	69	61	65	57	65	68	77	76	69	52	58	58	57	77	78	76	84	78	73	78	....	68.1
	Minimum	42	36	45	40	41	39	40	32	46	53	48	39	34	41	44	39	51	49	46	48	48	51	49	41	54	43	55	57	59	53	....	45.4
Donnybrook	Maximum	60	72	64	72	67	58	63	74	73	71	68	72	76	71	67	72	75	69	69	66	64	54	56	72	66	72	78	74	69	75	....	68.6
	Minimum	39	32	51	34	50	44	42	34	45	50	34	41	45	44	42	37	44	45	38	37	46	47	47	45	54	42	52	59	58	54	....	44.4
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Edgeley	Maximum	62	68	71	70	79	62	60	68	74	78	66	65	75	70	65	67	71	67	70	60	65	62	62	72	74	71	74	77	78	81	....	69.5
	Minimum	49	39	52	35	52	44	44	45	43	45	50	44	43	50	48	43	45	40	38	43	52	51	49	47	66	49	49	60	60	67	....	48.1
Fessenden §§	Maximum	58	71	67	72	72	59	60	72	77	75	59	70	77	72	66	71	70	73	70	68	60	59	55	73	73	72	78	69	73	80	....	68.7
	Minimum	42	33	39	35	45	40	43	38	40	44	51	40	40	45	44	39	47	40	39	41	48	48	49	43	53	44	58	57	57	59	....	44.7
Forman	Maximum	66	69	72	70	76	66	63	68	75	76	76	66	76	71	66	65	70	69	73	70	62	63	64	74	77	77	79	81	79	86	....	71.5
	Minimum	51	41	50	43	55	47	47	48	45	49	56	47	51	54	51	47	50	45	45	47	42	48	50	47	56	50	53	64	65	64	....	50.3
Fullerton	Maximum	60	69	72	69	77	63	60	69	76	75	69	66	75	70	65	67	72	66	69	60	64	60	63	74	74	73	74	79	77	84	....	69.7
	Minimum	50	40	52	43	48	44	46	46	44	46	55	48	45	50	50	45	46	42	40	41	54	53	52	48	53	50	51	62	60	70	....	49.1
Garrison	Maximum	60	71	65	73	65	60	63	77	74	68	71	74	73	69	66	74	76	69	70	65	56	56	60	73	74	78	79	69	73	77	....	69.3
	Minimum	40	35	51	54	49	40	42	36	40	41	39	43	44	49	43	38	46	44	43	47	49	54	47	44	44	48	45	61	59	55	....	45.7
Grafton §§	Maximum	63	72	73	70	75	63	67	72	79	80	72	72	79	73	70	64	66	71	71	70	70	63	66	73	74	74	76	69	73	82	....	71.4
	Minimum	40	34	50	36	43	48	43	49	43	42	55	43	44	47	49	49	45	39	38	37	34	54	50	47	49	49	50	56	55	57	....	45.5
Granville	Maximum	72	72	70	73	68	68	62	75	74	75	73	63	77	70	72	70	75	77	74	72	70	57	58	..	..	..	92	80	80	78	....	°72.1
	Minimum	42	38	50	47	50	47	35	48	50	50	43	43	50	44	50	40	45	57	54	58	40	45	48	..	..	..	47	60	60	57	....	°48.1
Hannah	Maximum	64	72	67	72	69	66	64	70	75	78	70	68	65	70	72	65	64	64	62	67	67	63	60	72	73	72	76	73	71	76	....	69.0
	Minimum	38	34	38	29	45	46	48	41	46	49	48	46	48	42	44	44	38	35	32	33	39	41	48	48	51	48	52	50	57	51	....	43.4
Hansboro	Maximum	63	72	65	68	70	58	63	72	77	75	72	76	78	70	70	64	64	68	65	66	66	58	55	72	70	73	75	77	72	76	....	69.0
	Minimum	39	32	44	32	48	44	43	40	40	50	45	42	47	45	45	44	44	40	32	34	34	49	46	45	50	45	55	50	52	58	....	43.8
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Howard	Maximum	..	..	..	..	..	..	73	..	..	..	..	..	..	..	..	76	70	69	70	65	57	52	55	76	65	74	80	76	70	74	....	[a]68.9
	Minimum	40	42	44	40	44	32	42	34	35	51	39	37	39	38	38	46	50	44	42	45	43	47	46	39	53	56	54	60	55	50	....	44.2
Jamestown §§	Maximum	56	70	72	81	77	62	58	68	75	77	70	65	77	70	67	69	70	69	69	64	63	58	60	74	73	74	72	74	76	82	....	69.7
	Minimum	47	37	44	38	46	44	45	44	43	40	53	46	41	48	49	44	48	42	43	43	48	51	50	46	51	47	51	55	59	60	....	47.0
Lakota	Maximum	62	66	67	65	67	57	57	65	74	73	61	66	76	67	54	59	64	67	63	64	61	56	54	68	70	58	70	62	70	75	....	64.6
	Minimum	40	35	49	32	45	45	45	42	40	44	51	47	52	46	48	46	46	40	35	38	40	50	48	45	48	43	46	40	50	52	....	45.0
Lamoine	Maximum	56	68	67	71	68	56	60	67	72	69	65	66	74	70	64	64	72	66	68	63	61	57	68	73	70	72	75	72	74	79	....	67.6
	Minimum	43	31	47	33	49	38	41	39	38	56	47	38	39	41	44	36	42	38	40	49	46	48	42	42	42	49	50	48	57	60	....	44.3
Langdon	Maximum	58	68	66	65	68	57	61	67	75	77	58	69	75	69	62	59	62	65	65	67	63	59	61	68	70	69	77	67	70	77	....	66.5
	Minimum	39	35	47	31	45	45	45	43	41	48	53	47	47	42	48	46	45	39	35	40	42	50	48	43	46	47	49	54	55	57	....	45.1
Larimore §§	Maximum	61	70	71	68	72	60	63	69	70	78	68	69	71	70	65	62	65	67	67	68	65	57	64	72	72	70	73	67	73	80	....	68.2
	Minimum	50	35	54	37	50	52	50	48	46	50	55	45	48	50	48	48	48	42	37	37	39	55	51	48	53	48	52	48	60	59	....	48.1
Lisbon §§	Maximum	56	74	76	70	74	66	67	66	76	70	78	60	74	73	67	68	70	72	72	65	65	63	64	72	76	72	78	80	80	85	....	71.0
	Minimum	48	38	46	56	51	46	46	48	46	50	40	45	58	52	50	46	43	40	48	45	50	52	50	46	43	48	43	52	59	62	....	48.2
McHenry	Maximum	59	69	68	75	74	60	70	69	77	78	61	68	77	68	63	64	65	70	66	65	66	56	56	71	71	75	76	68	75	79	....	68.6
	Minimum	43	35	47	35	36	34	45	46	40	50	47	42	42	48	49	43	42	40	41	43	48	50	50	44	54	44	53	58	59	64	....	45.7
McKinney	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Maddock	Maximum	69	70	70	70	72	59	59	72	75	75	74	69	77	75	67	68	69	70	68	68	65	58	56	71	71	72	76	75	72	77	....	69.6
	Minimum	41	32	52	32	50	41	44	39	39	45	51	43	44	45	46	39	45	42	39	40	44	49	48	43	53	44	59	56	58	61	....	45.2
Marmarth	Maximum	55	66	68	70	59	56	57	71	76	68	63	60	73	71	68	76	80	69	60	49	55	58	59	78	71	72	80	76	76	80	....	67.3
	Minimum	42	33	46	40	43	35	38	34	42	52	44	39	37	42	47	43	45	47	49	46	46	47	45	36	41	41	55	56	55	60	....	44.2
Minot §§	Maximum	65	76	75	76	66	54	64	78	83	75	73	77	84	74	63	81	79	74	73	70	54	55	61	77	78	79	81	71	75	81	....	72.4
	Minimum	43	35	45	35	50	45	45	34	42	50	47	45	50	44	45	39	46	49	45	41	47	48	48	46	51	46	52	58	60	55	....	46.2
Mott	Maximum	79	76	75	78	71	62	66	72	76	74	68	67	69	65	73	77	77	78	75	70	73	73	70	78	71	78	83	82	80	83	....	74.0
	Minimum	48	43	46	47	44	36	35	34	39	46	43	34	38	41	44	38	45	46	44	45	50	53	51	53	50	55	57	60	60	63	....	46.3
Napoleon §§	Maximum	57	70	71	71	75	60	64	70	76	73	64	63	75	74	67	70	77	69	72	61	64	56	59	74	72	76	77	75	80	83	....	69.9
	Minimum	46	37	39	35	47	42	43	36	39	44	50	43	40	45	45	37	42	42	39	44	48	49	48	42	44	43	46	54	68	60	....	44.6
New England	Maximum	60	69	70	73	70	58	65	75	79	74	70	67	72	70	70	72	78	68	67	57	58	59	57	78	77	80	87	85	77	80	....	70.7
	Minimum	43	34	39	39	46	31	39	34	46	44	41	41	40	40	41	38	44	47	40	43	43	44	42	33	35	46	42	52	54	47	....	41.5
New Salem	Maximum	52	71	65	68	64	55	64	71	72	75	67	62	69	71	65	72	75	68	62	65	62	60	55	71	72	73	75	69	76	78	....	67.5
	Minimum	39	35	45	38	45	46	39	35	41	50	47	37	40	39	41	41	42	44	38	45	44	48	45	50	52	54	55	50	60	62	....	44.9
Orange	Maximum	65	67	71	70	65	58	67	71	77	75	65	60	74	71	65	76	78	70	62	59	58	60	60	70	71	72	81	79	75	79	....	69.0
	Minimum	47	34	41	39	47	39	39	32	40	34	38	40	35	42	42	38	49	50	47	47	50	47	47	39	51	41	55	58	58	54	....	45.0
Oriska	Maximum	62	70	72	73	72	65	64	68	78	78	68	68	78	78	82	82	73	68	68	66	63	58	60	76	72	75	68	73	81	87	....	71.5
	Minimum	37	38	35	42	52	46	50	48	42	44	54	45	46	60	60	60	42	41	39	38	52	50	45	46	56	47	50	58	65	65	....	48.4
Park River	Maximum	63	70	71	70	75	65	62	69	77	79	74	69	75	72	67	63	64	68	68	68	64	64	72	73	71	76	71	72	80	....	....	70.0
	Minimum	44	36	53	52	36	50	47	49	45	44	52	48	52	48	50	50	49	43	40	38	38	52	50	46	51	50	51	51	55	59	....	47.6
Pembina §§	Maximum	64	74	67	74	71	71	81	78	82	84	81	79	84	71	62	62	61	58	68	74	76	62	61	72	68	81	81	82	83	88	....	73.3
	Minimum	41	41	48	36	46	49	44	49	48	55	52	51	51	48	49	46	42	41	36	41	44	51	52	43	52	48	54	61	48	54	....	47.4
Power	Maximum	68	65	67	66	..	..	..	..	..	..	60	..	..	76	62	71	78	78	79	74	68	70	71	75	74	78	62	..	72	76	....	[b]71.0
	Minimum	52	50	54	56	..	..	..	..	..	..	54	..	..	58	54	52	58	59	59	40	42	50	52	54	52	60	51	..	56	47	....	[b]52.9
Towner	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Turtle Lake	Maximum	60	70	65	72	66	60	60	73	78	73	65	70	65	72	65	70	78	70	70	67	60	67	60	70	70	70	80	76	75	75	....	69.1
	Minimum	42	37	47	38	48	40	43	37	42	51	48	42	48	45	44	40	45	43	43	50	50	50	48	45	45	45	55	60	60	58	....	46.1
University	Maximum	61	70	71	66	73	63	64	68	77	76	74	68	74	72	68	62	65	68	68	68	69	60	64	73	74	73	74	72	74	81	....	69.7
	Minimum	45	35	43	38	45	45	44	50	44	49	53	46	46	51	50	46	41	40	38	43	44	56	49	48	50	49	56	58	58	61	....	47.4
Wahpeton §§	Maximum	62	70	74	67	75	65	62	60	74	77	74	71	75	74	64	68	69	70	70	66	66	66	65	75	78	75	76	85	80	87	....	71.3
	Minimum	52	40	48	41	49	48	45	50	45	47	56	46	51	54	50	46	44	42	40	45	46	50	50	46	54	48	50	62	58	62	....	48.8
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Westhope	Maximum	70	72	67	73	65	63	59	75	78	71	69	72	78	76	74	70	72	70	69	69	59	58	57	73	74	75	78	69	70	74	....	70.0
	Minimum	36	37	38	39	41	47	45	36	44	40	44	42	40	43	40	46	48	42	38	45	43	49	49	43	43	44	53	60	55	56	....	44.3
Williston	Maximum	60	70	68	74	66	50	67	74	78	66	65	71	75	68	70	78	75	73	71	66	55	56	57	77	65	73	80	74	71	77	....	69.0
	Minimum	38	37	52	43	45	43	43	40	55	51	44	44	49	46	44	48	55	54	49	51	49	49	47	45	51	46	58	63	54	56	....	48.3
Willow City	Maximum	69	71	67	72	67	60	61	72	77	71	64	72	74	70	64	67	70	69	68	68	54	58	54	70	68	72	78	68	71	76	....	67.8
	Minimum	38	33	54	34	49	39	43	34	40	50	45	39	40	40	44	38	48	40	37	38	42	49	48	41	50	41	52	58	52	59	....	44.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
F

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

UNIVERSITY OF ILLINOIS

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JULY, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 31, 1916.

Departure of the Mean Temperature from the Normal, July, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., JULY, 1916. No. 7.

GENERAL SUMMARY.

Although much damage to wheat was caused by high temperature and excessive precipitation, the weather for the month was generally favorable for crops and outdoor work. The mean temperature for the State, 73.1°, is the highest of record since the Climatological Service was established in 1892. The average precipitation for the State, 3.16 inches, has only been exceeded five times during July in the above mentioned period. This hot and humid condition was favorable for the propagation of rust, and wheat suffered to a large extent, while oats and barley suffered to a limited extent. On the other hand, conditions were favorable for corn, and at the close of the month that crop was in an excellent condition. Pastures and meadows were exceptionally good. Rye harvest was practically completed, and wheat harvest well begun at the close of the month. Severe hailstorms occurred in many parts of the State, and did immense damage. The stage of water in the Missouri River and its tributaries and the Red River of the North was unusually high.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.92 inches. The highest was 30.39 inches at Bismarck, Burleigh County, on the 31st; the lowest was 29.40 inches at Williston, Williams County, on the 3d.

TEMPERATURE.

The mean temperature for the State was 73.1°, or 5.5° above the normal, and 10.8° higher than the mean for July, 1915. The highest mean reported was 78.8° at Forman, Sargent County; the lowest was 68.9° at Howard, Divide County. The highest temperature reported was 105° at Cando, Towner County, on the 28th; the lowest was 33° at Alexander, McKenzie County, on the 23d. Generally the highest temperature occurred on the 28th, and the lowest on the 23d or 24th. The greatest daily range of temperature was 54° at Melville, Kidder County, on the 26th. The greatest monthly range of temperature was 67° at Cando, Towner County; the least was 34° at Fullerton, Dickey County. This distribution of temperature was exceptionally uniform, and all stations showed means considerably above the normal.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 67 per cent, the average at 7 a. m. being 85 per cent, and at 7 p. m. 59 per cent.

PRECIPITATION.

The average precipitation for the State was 3.16 inches, or 0.49 inch above the normal, and 0.15 inch greater than the average for July, 1915. The greatest monthly amount reported was 10.10 inches at Forman, Sargent County; the least was 0.24 inch at McKinney, Renville County. The greatest amount recorded in any twenty-four consecutive hours was 5.70 inches at McHenry, Foster County, on the 6th. The average number of days with 0.01 inch or more of precipitation was 7. The distribution of precipitation was uneven geographically, but fairly uniform throughout the month. Stormy periods were from the 2d to the 10th, inclusive, 15th to 19th, inclusive, 22d to 25th, inclusive, and on the 29th-30th. Thunderstorms and electrical storms were of frequent occurrence, and immense damage from hail occurred in many parts of the State.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 8.3 miles. The greatest wind movement was 6,761 miles at Bismarck, an average of 9.1 miles per hour; the least was 4,851 miles at Moorhead (Minn.), an average of 6.5 miles per hour. The maximum velocity for a period of five consecutive minutes was at the rate of 52 miles per hour from the southwest at University on the 6th

SUNSHINE AND CLOUDINESS.

The sunshine was above the normal; the average number of clear days was 19, partly cloudy days 9, and cloudy days 3.

ERRATA, JUNE, 1916.

Page 44: Amenia, total precipitation should be 3.65 inches; Langdon and Minot, days with .01 inch or more of precipitation should be 12 and 13, respectively; Williston, greatest 24-hour precipitation should be 1.39 inches.
Page 45: Amenia, total precipitation should be 3.65 inches.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	68.7	+1.1	108	31	3.23	+0.56	8	19	8	4	se.
1893...	69.5	+1.9	112	35	2.04	−0.63	7	17	10	4	nw.
1894...	71.7	+4.1	107	38	0.53	−2.14	3	20	8	3	nw.
1895...	66.1	−1.5	102	29	2.90	+0.23	8	14	11	6	s.
1896...	67.5	−0.1	107	31	1.59	−1.08	6	15	10	6	nw.
1897...	68.9	+1.3	109	38	4.43	+1.76	9	13	11	7	s.
1898...	67.6	0.0	106	28	2.49	−0.18	7	15	11	5	nw.
1899...	68.3	+0.7	109	32	2.34	−0.33	6	18	9	4	nw.
1900...	67.9	+0.3	107	33	2.25	−0.42	6	16	10	5	nw.
1901...	70.8	+1.2	110	40	4.28	+1.61	6	18	7	6	se.
1902...	67.6	0.0	106	34	2.15	−0.52	5	20	7	4	nw.
1903...	66.7	−0.9	109	26	2.23	−0.44	7	17	8	6	nw.
1904...	64.4	−3.2	102	34	2.49	−0.18	6	17	8	6	nw.
1905...	65.6	−2.0	100	32	3.90	+1.23	8	17	9	5	nw.
1906...	66.9	−0.7	102	34	1.97	−0.70	11	13	8	10	nw.
1907...	65.8	−1.8	103	31	3.14	+0.47	9	16	11	4	nw.
1908...	68.6	+1.0	103	31	2.10	−0.57	6	19	9	3	nw.
1909...	67.1	−0.5	99	34	2.89	+0.22	8	15	9	7	nw.
1910...	70.0	+2.4	114	33	1.60	−1.07	5	18	9	4	nw.
1911...	65.1	−2.5	107	23	1.82	−0.85	6	18	10	3	nw.
1912...	66.0	−1.6	106	30	3.54	+0.87	10	12	13	6	nw.
1913...	65.6	−2.0	103	35	2.30	−0.37	8	17	8	6	nw.
1914...	72.1	+4.5	109	36	2.31	−0.36	6	19	9	3	se.
1915...	62.3	−5.3	97	30	3.01	+0.34	11	12	11	8	nw.
1916...	73.1	+5.5	105	33	3.16	+0.49	7	19	9	3	se.

Climatological Data for July, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie	.....	1	69.4	.....	94	14	33	23	54	1.67	.....	0.76	0	9	20	10	1	se.	M. B. Johnson.
Amenia	Cass	954	20	74.2	+5.9	94	†27	49	24	38	4.29	+0.98	1.92	0	6	19	7	5	s.	E. T. Carley.
Ashley	McIntosh	2,001	19	73.5	+5.2	95	28	48	24	33	6.03	+3.54	1.86	0	8	26	4	1	se.	R. C. Miles.
Beach	Golden Valley	2,576	10	70.8	.....	95	27	42	20	49	1.49	.....	0.48	0	8	23	6	2	se.	D. J. Steiner.
Berthold Agency††	McLean	2,082	22	72.3	+3.4	95	† 6	39	24	46	1.36	−0.62	0.74	0	9	24	7	0	e.	C. L. Hall.
Beulah	Mercer	1,910	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. W. Koester.
Bismarck	Burleigh	1,674	42	75.0	+4.8	96	28	50	24	34	4.03	+1.89	1.40	0	13	16	12	3	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	71.7	+6.0	99	28	44	24	38	2.36	−0.19	1.63	0	5	14	11	6	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	69.4	.....	90	14	42	24	39	0.38	.....	0.15	0	4	20	5	6	.....	G. H. Phelps.
Bowman	Bowman	.....	2	72.4[c]	.....	94[c]	15	45[c]	19	38[c]	1.85	.....	0.45	0	12	17	6	8	.....	L. S. Diehl.
Buford	Williams	1,944	37	72.6	+3.2	91	† 6	51	†20	37	2.06	+0.36	1.35	0	4	19	6	6	e.	P. Elmore.
Cando	Towner	1,488	15	74.6	+10.0	105	28	38	24	46	2.13	−0.76	0.73	0	6	.....	.....	.....	.....	E. T. Judd.
Carson	Morton	.....	4	.....	.....	98	27	.....	.....	.....	1.14	.....	0.20	0	8	24	7	0	se.	J. W. Evens.
Colgate	Steele	1,177	2	74.4	.....	92	†10	45	24	36	3.32	.....	1.50	0	8	12	16	3	se.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	5.00	.....	1.35	0	8	20	9	2	se.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	72.9	+4.8	96	28	47	24	30	3.70	−0.08	1.87	0	11	16	10	5	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	71.6	+3.7	96	27	42	19	42	2.46	+0.18	1.02	0	11	14	8	9	e.	J. C. Thysell.
Donnybrook	Ward	1,760	17	70.0	+4.5	90	14	41	24	39	0.88	−2.08	0.41	0	3	23	8	0	e.	Geo. Michel.
Dunseith	Rolette	1,682	20	70.4	+6.5	96	28	46	24	32	2.91	+0.50	1.50	0	7	19	3	9	se.	J. G. Lamont.
Eckman	Bottineau	.....	11	71.0	.....	97	28	47	25	40	3.54	.....	2.20	0	8	19	9	3	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	73.8	+5.4	99	28	44	24	39	3.91	+1.23	1.08	0	6	11	13	7	se.	O. A. Thompson.
Energy††	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	2.09	.....	0.57	0	9	14	16	1	e.	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.35	0	3	23	7	1	e.	M. E. Uggen.
Fessenden	Wells	1,610	4	72.0	.....	97	28	42	24	35	3.31	.....	1.07	0	10	23	7	1	se.	G. T. Seymour.
Forman	Sargent	1,249	24	78.8[b]	+9.6	99[b]	28	60[b]	1	32[b]	10.10	+7.18	2.20	0	10	.....	.....	.....	.....	A. Maltby.
Fullerton	Dickey	1,439	18	77.5	+9.7	95	†26	61	†12	28	5.94	+2.67	2.05	0	7	21	10	0	s.	F. O. Alin.
Garrison	McLean	1,901	21	72.6	+4.7	95	28	46	24	38	2.27	−0.08	0.68	0	9	18	13	0	se.	G. L. Robinson.
Goodall	McKenzie	2,200	2	72.0	.....	93	14	48	24	40	0.55	.....	0.34	0	3	17	7	7	se.	C. H. Layman.
Grafton	Walsh	827	24	72.8	+5.4	96	28	46	24	37	1.40	−1.13	0.52	0	6	24	6	1	se.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	74.2	.....	98	28	45	23	42	6.11	.....	1.42	0	7	24	5	2	n.	G. H. Leick.
Granville	McHenry	1,504	9	73.3	.....	95	28	50	25	30	2.99	.....	1.83	0	4	19	10	2	s.	W. A. Christianson.
Hannah	Cavalier	1,568	11	70.5	.....	96	28	37	23	33	2.49	.....	0.98	0	5	23	6	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	70.0[b]	.....	96[b]	28	37[b]	26	41[b]	4.42	.....	1.75	0	10	18	12	1	.....	C. E. Blackorby.
Hettinger	Adams	2,253	8	73.4	.....	98	27	45	19	43	1.76	.....	0.55	0	9	27	2	2	se.	A. J. Ogaard.
Hillsboro	Traill	901	10	74.0	.....	92	28	49	24	34	5.07	.....	2.77	0	6	17	13	1	s.	F. E. Mayall.
Howard	Williams	2,275	7	68.9	.....	90	† 6	43	2	38	1.42	.....	0.92	0	3	17	10	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	74.9	+6.7	98	28	37	24	39	2.63	−0.19	0.85	0	8	15	6	10	se.	S. Calvelage.
Lakota	Nelson	1,579	15	70.1	+5.1	90	28	43	25	31	5.10	+2.19	1.25	0	11	8	23	0	se.	C. R. Pettes.
Lamoine	Kidder	1,936	8	72.0	.....	98	28	46	24	42	2.07	.....	0.42	0	8	15	14	2	se.	E. V. Virgin.
Langdon	Cavalier	1,615	20	70.1	.....	98	29	40	24	36	2.49	.....	0.78	0	8	28	0	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	72.8	+6.6	91	28	46	24	29	8.14	+5.11	2.85	0	6	14	6	11	.....	G. G. Graham.
Lisbon	Ransom	1,091	12	75.0	+7.3	96	†27	45	25	44	6.50	+3.15	1.78	0	9	26	2	3	nw.	W. S. Adams.
McHenry	Foster	1,509	6	73.3	.....	95	28	49	23	34	9.45	.....	5.70	0	5	29	2	0	se.	P. E. Trudeau.
McKinney	Renville	1,640	22	70.4	+4.7	98	† 5	38	24	49	0.24	−1.83	0.12	0	2	.....	.....	.....	se.	N. P. Swenson.
McLeod	Ransom	1,075	4	77.1	.....	98	28	54	24	31	3.95	.....	1.20	0	8	22	6	3	se.	E. W. Griggs.
Maddock	Benson	.....	1	72.0	.....	95	†28	42	24	34	5.60	.....	2.12	0	8	22	0	9	se.	F. P. Crowing.
Mandan	Morton	1,644	2	75.0	.....	98[a]	28	50	24	33[a]	3.55	.....	0.80	0	10	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	73.2	+7.1	98	28	45	24	39	2.99	+0.53	1.21	0	9	19	11	1	sw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	1.08	.....	0.47	0	3	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	71.4[c]	.....	96[b]	27	45[b]	† 4	43[b]	2.40	.....	0.67	0	11	18	11	2	e.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	72.3	.....	95	28	45	24	38	3.03	.....	1.58	0	4	.....	.....	.....	se.	H. H. McCumber.
Mayville	Traill	975	20	75.1	+6.0	96	28	47	24	34	3.87	+0.51	1.36	0	9	20	5	6	.....	W. C. Gould.
Melville	Foster	1,590	18	73.6[b]	+5.9	96[b]	28	36[b]	26	54	2.91	+0.08	1.10	0	6	.....	.....	.....	se.	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	7.41	.....	1.99	0	9	19	6	6	se.	Hj. Edman.
Minot	Ward	1,557	20	73.2	+5.2	98	28	41	24	44	0.62	−1.34	0.40	0	6	10	16	5	e.	W. I. Faris.
Minto	Walsh	820	23	74.2	+7.1	95	28	45	24	35	3.15	+0.36	1.46	0	9	22	5	4	se.	C. M. Evans.
Mott	Hettinger	2,424	9	74.9	.....	98	27	44	19	41	1.01	.....	0.34	0	7	19	10	2	s.	O. H. Opland.
Napoleon	Logan	1,955	24	74.6	+6.5	99	28	46	24	42	2.52	+0.04	0.90	0	13	19	6	6	se.	C. J. Hoof.
New England	Hettinger	2,400	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,163	11	73.6	+4.1	96	28	45	24	38	2.96	+0.99	0.98	0	11	19	11	1	se.	J. Christiansen.
Orange††	Adams	2,586	7	73.7	.....	98	27	46	19	39	1.14	.....	0.34	0	6	24	7	0	se.	J. E. Goforth.
Oriska	Barnes	1,270	11	75.2	+7.5	96	20	45	23	38	4.50	+1.42	1.25	0	6	12	18	1	nw.	J. J. Taylor.
Park River	Walsh	998	12	73.2	+5.9	96	28	42	24	35	2.01	−0.56	0.66	0	7	19	9	3	se.	F. A. McCray.
Parshall	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	1.72	.....	1.72	0	1	17	13	1	e.	J. A. Johnson.
Pembina	Pembina	789	42	76.4	+9.0	99	† 5	51	†24	37	1.96	−0.63	1.00	0	6	21	9	1	s.	C. W. Shumaker.
Power	Richland	1,020	24	75.8	+7.1	101	18	50	1	41	4.55	+1.20	1.42	0	6	18	12	1	sw.	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	1.22	.....	0.33	0	6	24	5	2	se.	C. Frank.
Steele	Kidder	1,857	19	76.6	+8.0	98	12	57	24	25	3.98	+1.32	1.32	0	10	19	12	0	se.	H. S. Wood.
Taylor	Stark	2,493	.....	73.2[b]	.....	94[c]	27	49[b]	22	36[b]	2.17	.....	0.55	0	9	.....	.....	.....	e.	H. Leutz.
Towner	McHenry	1,482	14	72.6	+6.5	97	28	42	24	36	4.12	+1.58	2.45	0	8	10	19	2	se.	B. Bagley.
Turtle Lake	McLean	1,899	4	73.4	.....	95	28	50	25	38	1.95	.....	0.75	0	5	15	16	0	e.	E. J. Jones.
University	Grand Forks	830	24	73.5	+6.3	93	28	48	24	29	3.51	+0.92	1.02	0	9	17	13	1	se.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	75.6	+6.4	96	28	51	†24	40	5.74	+1.68	1.40	0	9	22	1	8	s.	F. E. Smith.
Walhalla	Pembina	966	9	73.6[a]	.....	97[a]	28	47[b]	25	35[b]	3.84	.....	2.22	0	8	.....	.....	.....	.....	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	70.3	.....	96	28	45	24	47	2.08	.....	0.99	0	7	19	12	0	se.	W. A. Meddaugh.
Williston	Williams	1,875	37	71.8	+2.4	92	13	51	5	38	1.14	−0.89	0.83	0	6	14	12	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	70.4[a]	+5.0	97[a]	27	40[a]	24	42[a]	2.19	+0.02	0.72	0	7	.....	.....	.....	e.	M. A. Ostby.
Zap	Mercer	1,800	3	71.6	.....	93	28	46	†20	43	1.57	.....	0.83	0	6	23	6	2	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	75.9	+7.2	95	28	53	24	32	5.30	+1.56	1.90	0	11	23	5	3	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	73.1	+5.5	105	28	33	23	54	3.16	+0.49	5.70	0	7	19	9	3	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for July, 1916.

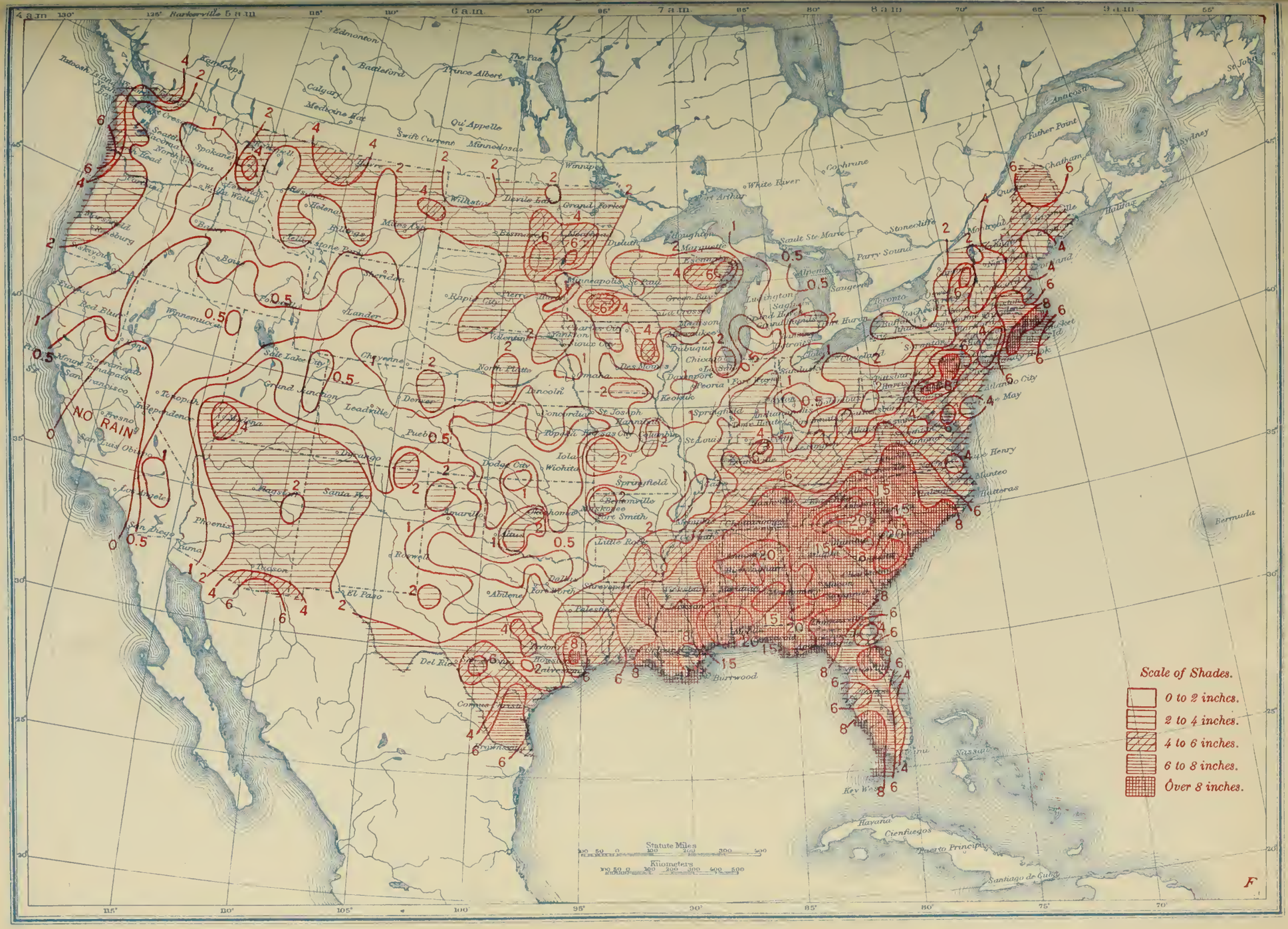
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Alexander	Missouri		.02												.65		.76		.04				.05				.05	.01	.04	.05			1.67
Amenia ‖ ‖	Red				.64		1.92											.50		.02		T.		T.		.44	T.				.77		4.29
Ashley	Missouri	1.53		1.86													1.60	.06	.08							.15			.23	.52		6.03
Beach	Lit. Missouri				.28		.48		.14							.15								.08		.14	T.	T.	.14	.08		1.49
Berthold Agency	Missouri																																
Beulah	Missouri						T		.74		.15				.10		.03	T.	.06							.13	.05		.06	.04			1.36
Bismarck ***	Missouri	T.		.48				.11	.15	.45						.28		1.40	.04			.03	.75		.02	.05			.26	.01			4.03
Bottineau ‖ ‖	Mouse				1.63		T.	.01								.46			.24							.02				T.			2.36
Bowbells ‖ ‖	Mouse						.15									.11										.09		.03					0.38
Bowman	Grand						.20		.07		.29					.35	.12		.45					.04	.02	.12	.03			.14	.02		1.85
Buford	Missouri			T.											T.		1.35		.38									T.	.10	.23			2.06
Cando	Sheyenne				.58		.39				.19					.20			.04												.73		2.13
Carson	Heart								.14								.20	.20	.10			.05		.10		.20					.15		1.14
Colgate	Sheyenne							1.50				.47						T.	T.			.20	.05	.06		.44				.10	.50		3.32
Cooperstown	Sheyenne		1.00				1.20											1.35	.15			.30	.10			.35				.55			5.00
Crosby	Mouse																																
Devils Lake ***	Sheyenne		.61	.01			1.87				.11					.24		.07	.02		.01	T.				.04			.67	.05			3.70
Dickinson ‖ ‖	Heart	T.					.06	T.	1.02		.35	T.	.62	T.		.03	.05	.05	.06					.03	T.	T.	T.		.07	.12	T.		2.46
Donnybrook	Mouse											.41				.24		.23						T.		T.	T.				T.		0.88
Dunseith	Mouse	T.		.60	1.50		.06				.05	T.				.58	T.			T.				.09	.03								2.91
Eckman	Mouse		2.10	.10			.45				.32					.33		.07	.15										.02				3.54
Edgeley	James		.87	1.04					.05								.74									.13				1.08			3.91
Energy	Missouri		.12	.03			T.		.20		.48					.26		.57	.10				.11				T.		.22				2.09
Epping	Missouri															.10	.14		.35														0.59
Fessenden ‖ ‖	James				1.07			T.	.60	.08	.32	T.				.72		.09		.10		.07							.22	.04		3.31
Forman	Sheyenne		2.20		2.00			1.25	.11							1.27				1.00			.20		T.	.22	.33			1.52			10.10
Fullerton	James		.64		1.52			.34								2.05	.08										.23				1.08		5.94
Garrison	Missouri			.07		T.		.15		.51							.10	.02	.58	.04				.68						.12			2.27
Goodall	Missouri															.34		.10											.11				0.55
Grafton ‖ ‖	Red				.52	.02		.40								.09			.35											.02			1.40
Grand Rapids	James		1.20		1.42			.82	.60							.82										.25					1.00		6.11
Granville	Mouse			1.83						T.						.69		.03	.44						T.								2.99
Hannah	Pembina				.98		.29				.17								.06						T.				.99				2.49
Hansboro	Red			1.75	.55		.12				.15					.55			.20			.10		.05					.80	.15			4.42
Hettinger	Grand						.11				.32						.25	.13	.05	T.			.08		.12	.15	T.		T.	.55			1.76
Hillsboro	Red				.42	T.		2.77														.10	.11	T.		.77				T.	.90		5.07
Howard	Missouri			T.															.02										.48	.92			1.42
Jamestown ‖ ‖	James		.14	.85				.50					.16											.54		.13	.06				.25		2.63
Lakota	Sheyenne			.90			1.25	1.00			.03						.40	.50	.40			T.	T.	.07	.15		T.			.35	.05		5.10
Lamoine	Missouri		.14	*	.38				T.		.42					.36			.14			T.	.30						.33				2.07
Langdon ‖	Pembina				.71			.73			.07					.05			.05	T.			T.	.03		.04				.78			2.49
Larimore ‖	Red				1.00			1.90						2.00		T.			2.85			.04									.55		8.14
Lisbon ‖	Sheyenne		.68		1.40			1.78		.94							.28			.14						.28	.10				.90		6.50
McHenry	James			1.35			5.70									.65		.85	T.		.90	T.							T.			9.45
McKinney	Mouse																	.12							T.			T.			.12		0.24
McLeod	Sheyenne		.50		.70			.05									.10			1.05				.05		.30					1.20		3.55
Maddock	Sheyenne				1.53		.32	2.12			.37					.52		.10		.18										.46			5.00
Mandan ‖ ‖	Missouri				.43				.11	.23	.59					.26		.62		T.			.10	.80		.07				.34			3.55
Manfred	Sheyenne			1.21	.04				.06		.64					.80		.07	.07				.03							.07			2.99
Manning	Knife							.47										.43											.18				1.08
Marmarth	Lit. Missouri			.02		.21	.03		.17	T.	.03					T.	.10	.67	.03		T.				T.	.33	.28			.58	T.		2.40
Marstonmoor	James				1.58			T.	T.		T.					T.	T.	1.14	T.			T.	T.	.25		.06				T.			3.03
Mayville	Red				.38			1.36					.12			.35		.53				.03	.05			.63					.42		3.87
Melville	James			1.10			.23		T.							.10		1.10				T.	.30			.08							2.91
Minor	Red		1.70		1.99			1.01	T.								.25			.68				.10		.15	.33				1.20		7.41
Minot ‖	Mouse							.10								.40		.05	T.							.01		.01		.05			0.62
Minto	Red				.55	.01	1.46						.30			.12		.33	.27				.01									.10		3.15
Mott	Cannon Ball			T.						.10					.02	.20			.34						.13	.14			.08				1.01
Napoleon ‖	Missouri		.01		.90				.02	.62							.22	.10	.06	.02			.03	.25		.09	.05				.15		2.52
New England	Cannon Ball																																
New Salem	Heart		.26	T.					.67		.11					.59	.04				.02	.04	.98	.03	T.	.02				.20	T.		2.96
Orange	Cannon Ball																.34	.05	.18						.04	.26				.27			1.14
Oriska	Sheyenne			.92	T.			.99	.07	T.					T.	.76										.51	T.			T.	1.25		4.50
Park River	Red				.66		.41	.38								T.	.12	.23	.13					T.	T.					.08	T.		2.01
Parshall	Missouri														1.72																		1.72
Pembina ‖	Red				T.			1.00								T.			.22	.10			.08			.22				.34			1.96
Power	Sheyenne	1.34					1.42		.04										1.41					.04	.30								4.55
Powers Lake	Missouri	.12					.30								.33	T.	.12		T.						.20		.15						1.22
Steele	Missouri		1.32	.95	.18				.21								.18	.02	.25			.02	.25	.60		T.	T.		T.	T.			3.98
Taylor	Heart						.21		.55		.15						.12	.40					.53		.03		.03			.15			2.17
Towner	Mouse			2.45							.05			.38		.35			.55				.08		T.				.16	.10		4.12
Turtle Lake	Missouri			.75							.25					.55			T.			.30					T.				.10		1.95
University	Red			.57	.45	T.	.64					.78				.05		.65	T.			T.				.18				.09	.10		3.51
Wahpeton ‖	Red		1.40	.06	1.20			1.08									.10			.99						.15	.52	T.			.24		5.74
Walhalla	Pembina				.32		2.22									.08		.02		T			.40		.04					.75	.01		3.84
Washburn	Missouri																																
Westhope	Mouse			.99	.19		.32				T.					.45		.05	.04						.04		T.						2.08
Williston ***	Missouri			T.			T.								.01		.83	.02	.01						T.		T.		.04	.23			1.14
Willow City	Mouse			.72	.40		.06				T.					.36			.42					.21	.02								2.19
Zap	Knife						.02		.09		.83					.45			.01				.17				T.			T.			1.57
Moorhead, Minn ***	Red				.36		.93	.81								.35			1.76	.14		.58		.02		.07	.06				.22		5.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Amenia §§	Maximum	90	85	83	79	89	91	84	82	88	91	88	92	89	85	78	88	90	91	84	88	90	87	84	78	71	90	94	94	88	85	85	86.5
	Minimum	52	61	61	63	66	68	62	65	67	70	68	61	65	65	64	66	65	71	59	53	64	59	62	49	57	61	66	67	69	67	60	63.0
Ashley	Maximum	88	80	86	83	86	88	83	81	89	87	85	89	87	87	87	82	87	86	79	87	87	81	77	78	73	89	93	95	85	82	80	84.7
	Minimum	55	62	60	60	65	70	63	67	64	68	68	60	62	60	67	65	67	70	55	54	60	59	55	48	63	63	64	67	66	65	58	62.3
Beach	Maximum	85	87	81	84	90	87	85	86	90	84	86	88	89	92	88	81	89	79	81	91	90	89	75	89	84	80	95	88	78	79	83	85.6
	Minimum	60	64	68	44	52	62	66	62	62	62	56	57	57	57	57	64	62	54	45	42	45	50	48	50	52	55	62	64	54	49	51	55.9
Berthold Agency	Maximum	80	80	85	81	93	95	85	84	90	85	89	86	88	95	94	80	92	83	81	93	91	89	75	67	82	82	92	93	84	86	89	86.1
	Minimum	52	62	67	55	56	68	65	63	67	67	60	61	55	81	60	66	64	61	48	47	47	59	52	39	55	62	59	67	62	56	50	58.5
Bismarck	Maximum	88	85	90	85	90	93	86	84	93	88	86	90	90	91	89	84	90	83	81	89	92	88	77	80	80	86	95	96	79	81	84	86.8
	Miuimum	54	67	66	58	68	75	66	69	68	68	67	64	59	64	66	68	66	63	54	58	64	61	55	50	59	64	66	66	64	62	58	63.1
Bottineau §§	Maximum	85	80	85	82	89	84	75	81	90	87	85	87	87	91	88	80	86	84	80	87	90	91	75	70	79	82	89	99	86	85	87	84.7
	Minimum	52	58	62	59	56	66	64	62	65	66	61	59	56	64	63	63	59	64	50	49	52	54	52	44	54	60	63	68	63	62	51	58.7
Bowbells §§	Maximum	81	80	86	84	85	89	78	82	87	87	86	86	88	90	87	72	82	81	78	84	81	87	84	78	74	78	76	87	85	83	80	83.3
	Minimum	54	56	51	45	52	51	61	61	63	64	57	57	55	63	59	61	60	57	49	50	50	52	51	42	47	52	58	63	60	61	51	55.5
Carson	Maximum	87	86	85	87	95	95	85	85	91	90	90	91	91	92	91	86	90	77	71	90	90	88	75	84	76	88	98	90	96	78	84	87.1
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Colgate	Maximum	89	86	83	81	90	90	88	85	86	92	88	90	90	86	80	86	88	92	82	89	90	87	80	80	77	88	90	91	88	87	88	86.7
	Miniuum	53	60	60	62	62	70	60	62	69	69	65	68	60	60	65	60	67	71	57	53	62	51	60	45	46	60	70	67	68	68	65	62.0
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	82	78	83	83	92	85	79	82	87	85	83	88	87	89	87	81	83	87	79	88	87	88	76	74	78	82	91	96	79	81	83	84.0
	Minimum	59	60	62	63	68	62	60	64	71	67	64	64	61	68	65	60	62	65	55	58	63	62	52	47	53	62	65	72	65	61	55	61.3
Dickinson	Maximum	85	88	80	82	90	89	85	84	90	83	85	86	86	90	85	80	87	85	84	89	90	89	80	82	80	78	96	90	78	78	85	85.1
	Minimum	52	64	63	50	58	64	70	64	64	64	58	59	60	60	60	60	64	61	42	51	49	54	52	48	56	60	60	65	60	57	50	58.0
Donnybrook	Maximum	82	80	86	80	85	86	86	83	87	87	84	84	87	90	86	76	85	82	78	87	87	87	81	69	78	77	88	89	82	80	85	83.4
	Minimum	53	56	64	56	50	64	63	62	64	61	58	62	53	67	62	59	60	58	51	52	51	48	52	41	42	56	62	66	61	56	47	56.7
Dunseith	Maximum	80	79	82	79	86	80	83	76	85	84	81	82	85	86	86	78	83	82	75	83	82	84	81	78	75	79	85	86	85	78	83	81.6
	Minimum	49	57	60	60	62	67	62	52	64	67	61	56	60	58	62	59	65	64	51	54	56	54	55	46	53	60	76	71	63	60	51	59.2
Edgeley	Maximum	89	84	86	82	87	90	84	79	89	87	84	89	89	88	87	82	90	89	80	89	87	88	77	76	75	91	97	99	90	81	83	86.1
	Minimum	50	50	60	61	62	70	63	67	65	66	70	59	64	59	64	66	66	71	56	55	61	58	58	44	61	64	64	64	68	66	59	61.6
Fessenden §§	Maximum	86	80	86	83	90	88	83	82	88	86	84	90	88	90	88	82	86	86	80	90	89	91	78	75	76	84	92	97	80	84	85	85.4
	Minimum	52	62	61	56	60	71	59	62	63	65	64	56	58	60	61	62	58	63	52	49	58	58	57	42	52	50	64	66	61	61	50	58.5
Forman	Maximum	93	..	88	85	91	93	87	83	89	90	87	90	92	88	90	86	92	95	94	90	88	90	..	84	81	91	97	99	93	84	88	[b]89.6
	Miuimum	60	..	65	65	64	61	65	71	70	72	73	65	65	69	80	69	71	75	62	61	67	65	..	67	64	67	70	73	72	72	65	[b]68.1
Fullerton	Maximum	87	79	86	83	88	89	85	81	87	87	87	89	88	86	86	82	89	87	88	88	86	85	76	76	78	95	94	95	87	86	91	86.2
	Miuimum	66	67	62	70	66	72	71	71	72	68	67	61	64	61	65	66	67	70	73	70	70	72	71	66	71	84	70	70	73	65	72	68.8
Garrison	Maximum	86	81	86	90	89	83	86	84	90	85	85	84	88	90	89	82	86	62	79	87	89	86	75	75	77	78	91	95	82	80	84	84.6
	Minimum	55	63	65	54	68	63	66	65	65	65	60	63	54	61	64	65	62	64	69	49	53	61	53	46	55	59	62	69	61	60	50	60.5
Grafton §§	Maximum	83	80	83	85	90	87	84	81	86	87	85	90	89	89	87	84	80	88	81	88	84	93	81	76	70	85	95	96	83	87	86	85.5
	Minimum	54	57	58	63	64	66	58	63	67	69	65	55	58	64	65	55	60	67	58	54	63	57	59	46	53	58	65	69	59	59	46	62.3
Granville	Maximum	80	80	87	88	92	92	80	82	87	85	84	87	88	90	85	80	85	85	78	85	86	85	75	74	75	80	91	95	92	80	80	84.3
	Minimum	57	58	70	65	70	74	63	62	65	70	63	68	68	65	64	63	62	65	62	58	56	56	55	54	50	59	65	65	62	60	58	62.3
Hannah	Maximum	77	82	85	89	89	81	84	81	84	85	84	87	88	85	84	86	87	85	76	84	86	72	70	72	75	79	84	96	83	78	80	82.5
	Minimum	59	58	54	62	61	66	65	60	61	63	62	64	66	65	60	61	64	62	52	53	52	49	37	41	50	56	60	68	67	59	58	58.5
Hansboro	Maximum	81	80	83	80	90	80	74	80	87	80	82	88	89	87	84	82	83	85	83	86	85	86	72	..	..	78	88	96	81	80	81	[b]83.1
	Miuimum	54	54	60	60	60	65	58	60	60	60	61	53	60	63	62	55	54	55	49	52	55	53	..	..	37	62	64	62	57	50	[b]56.8
Hettinger	Maximum	87	89	84	84	91	94	89	90	93	85	86	91	89	90	91	85	92	81	84	93	93	89	77	87	79	87	98	91	79	77	82	87.3
	Miuimum	51	52	67	47	60	66	66	66	65	65	60	57	58	59	62	64	65	63	45	50	53	51	65	63	62	65	71	60	50	51	59	59.4
Howard	Maximum	79	72	76	78	84	90	90	83	85	87	86	87	89	89	75	70	85	78	78	87	88	87	74	75	80	85	88	80	85	80	84	82.4
	Minimum	49	43	45	47	48	64	63	63	63	62	56	55	56	57	66	58	70	59	50	49	51	51	47	46	50	58	62	63	57	53	57	55.4
Jamestown §§	Maximum	88	80	85	87	89	90	81	82	89	86	86	92	90	87	88	82	91	87	81	92	90	87	77	76	75	91	96	98	82	82	82	86.1
	Minimum	54	64	58	61	64	71	62	66	67	59	57	59	63	63	66	67	65	67	55	53	61	59	60	37	56	59	61	67	66	67	58	63.7
Lakota	Maximum	74	75	79	79	85	83	75	78	82	83	78	85	83	83	84	75	78	83	75	82	83	83	72	69	72	75	86	90	83	80	80	79.7
	Minimum	58	60	62	60	70	63	58	62	68	66	62	68	59	58	62	60	58	67	65	52	60	59	59	57	43	60	63	68	62	58	49	60.5
Lamoine	Maximum	85	76	86	82	88	90	84	81	88	85	85	87	88	90	88	85	88	84	80	90	88	88	76	73	76	84	92	98	78	80	83	84.7
	Minimum	52	64	62	60	56	72	61	62	64	62	63	58	62	63	62	62	60	64	50	48	56	58	56	46	53	63	64	69	61	56	53	59.4
Langdon	Maximum	78	79	82	80	88	85	74	79	85	81	80	85	86	88	86	82	82	89	77	85	87	88	71	71	76	79	85	98	78	79	85	82.2
	Minimum	55	57	60	61	63	65	59	61	64	64	60	58	55	64	64	56	60	63	52	50	59	55	57	40	49	52	60	62	62	59	53	58.0
Larimore §§	Maximum	84	78	80	80	88	87	78	82	84	86	85	89	87	86	84	79	80	88	78	85	87	85	77	75	74	85	89	91	82	81	84	83.2
	Minimum	56	58	60	60	64	72	60	64	69	71	68	60	66	62	66	59	62	70	60	56	67	60	63	46	56	62	65	67	70	62	58	62.5
Lisbon §§	Maximum	91	88	86	86	92	94	86	90	90	90	80	90	90	84	90	88	93	92	82	88	88	86	88	83	76	92	96	96	90	86	85	88.3
	Minimum	62	65	62	62	60	70	65	68	70	68	67	62	58	68	64	62	60	67	60	56	60	59	52	47	45	48	60	66	70	66	60	61.6
McHenry	Maximum	85	83	84	85	92	78	80	81	88	84	81	88	90	90	86	70	86	84	85	84	87	77	72	76	85	90	90	95	85	80	86	84.1
	Minimum	55	58	60	61	65	68	60	64	70	67	65	60	64	65	63	62	63	69	65	63	62	57	49	53	55	56	67	80	70	62	58	62.5
McKinney	Maximum	86	82	90	90	98	85	..	..	90	91	89	96	91	98	96	90	89	90	80	91	91	93	82	70	80	78	93	90	88	83	90	[b]88.5
	Minimum	52	55	51	50	52	52	..	..	65	60	60	48	50	49	48	50	50	60	54	54	48	48	48	38	39	45	63	63	61	58	44	[b]52.2
Maddock	Maximum	82	81	85	82	88	86	81	80	88	85	82	86	85	87	86	85	80	83	79	87	86	87	86	71	74	80	88	95	95	80	82	83.9
	Minimum	53	60	61	61	61	66	59	63	68	66	64	60	60	61	63	62	59	67	53	53	58	59	58	42	52	58	61	68	63	63	57	60.0
Marmarth	Maximum	86	86	82	84	90	88	89	90	89	83	84	88	91	95	89	83	95	78	..	90	..	89	79	91	80	80	96	85	74	73	81	[b]85.8
	Minimum	50	65	..	45	55	64	68	63	61	70	56	56	56	56	57	56	62	56	45	..	..	61	56	53	..	53	53	61	56	51	52	[d]56.9
Minot §§	Maximum	86	85	90	88	94	91	81	86	94	92	89	89	95	96	89	84	94	86	82	93	92	90	80	75	79	84	93	98	87	85	89	88.3
	Minimum	57	58	65	56	57	66	64	63	65	70	60	64	51	60	64	63	63	64	54	51	51	54	56	41	48	52	62	64	63	58	46	58.2
Mott	Maximum	88	86	85	83	90	95	87	93	85	82	84	88	90	95	88	83	91	80	85	90	92	86	80	77	86	92	98	91	92	88	89	87.7
	Minimum	65	68	65	62	68	77	66	65	68	60	57	61	58	66	63	62	68	64	44	57	63	55	48	45	58	67	73	65	63	60	64	62.1
Napoleon §§	Maximum	91	85	90	89	90	90	87	82	90	91	94	92	93	90	88	86	90	89	81	93	90	90	80	80	78	93	98	99	87	83	85	88.5
	Minimum	50	64	64	55	62	71	64	64	62	67	65	57	59	60	68	64	66	67	52	51	60	62	55	46	50	60	62	70	65	61	55	60.6
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Miuimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	85	83	86	89	92	92	88	86	89	85	86	89	93	91	87	83	89	81	75	90	90	88	78	79	78	81	90	96	80	79	83	85.8
	Minimum	65	68	52	51	68	71	70	64	63	64	63	65	68	74	57	65	69	57	47	52	61	57	55	45	55	60	71	68	60	57	63	61.5
Orange	Maximum	88	88	87	84	91	96	87	90	93	86	86	91	92	94	88	82	91	81	83	91	92	88	78	84	79	89	98	96	78	78	83	87.5
	Minimum	57	68	63	48	59	68	65	67	66	64	60	58	60	60	65	65	62	62	46	52	55	60	50	50	63	61	62	68	61	56	55	59.9
Oriska	Maximum	93	94	83	95	90	92	83	80	87	87	89	92	88	87	78	90	87	92	83	96	88	87	81	73	73	88	91	95	86	85	86	87.2
	Minimum	56	56	63	64	73	71	60	66	70	70	68	61	61	62	68	64	68	78	58	56	66	58	45	57	57	67	64	65	70	58	60	63.2
Park River	Maximum	82	80	84	83	90	89	80	82	86	82	83	89	87	88	88	85	80	88	84	87	89	90	85	74	77	85	90	96	94	85	86	85.4
	Minimum	59	57	58	63	66	64	59	65	67	70	67	60	58	61	65	59	59	73	58	57	65	55	62	42	52	59	66	65	67	61	53	61.0
Pembina §§	Maximum	91	94	89	91	99	88	86	92	90	92	89	91	94	97	92	91	87	99	84	91	92	92	44	72	79	96	97	96	88	79	91	90.1
	Miuimum	61	64	62	66	66	71	64	60	68	72	68	62	58	71	72	68	66	64	56	54	61	62	62	51	51	59	61	65	62	61	56	62.7
Power	Maximum	86	84	83	85	90	84	82	88	92	96	84	98	92	89	90	91	89	101	92	94	93	96	89	90	86	89	90	94	92	88	93	90.0
	Minimum	50	52	56	58	59	58	58	59	58	63	65	70	65	67	76	72	71	60	62	63	65	64	58	58	60	61	62	63	60	56	60	61.6
Towner	Maximum	78	81	88	82	90	87	83	82	88	88	85	87	87	89	88	87	87	85	78	90	88	89	85	73	79	84	90	97	96	85	84	85.8
	Minimum	55	58	61	60	60	63	60	62	68	70	62	53	68	65	67	62	60	64	55	57	57	54	48	42	52	58	65	65	62	61	49	59.5
Turtle Lake	Maximum	86	80	86	80	89	90	84	84	88	85	82	85	86	88	88	84	88	80	78	90	85	85	74	75	78	80	92	95	81	82	87	84.4
	Minimum	60	65	64	58	61	73	74	64	65	67	70	67	65	68	65	62	65	63	55	52	60	65	55	50	56	65	66	63	57	55	55	62.3
University	Maximum	84	79	84	79	88	88	83	81	85	87	84	90	86	84	83	82	83	89	80	87	88	86	78	74	74	85	90	93	81	83	82	83.9
	Minimum	56	60	60	64	65	68	65	63	68	70	65	61	63	66	65	64	66	71	61	58	67	60	53	48	58	63	66	71	71	63	56	63.1
Wahpeton §§	Maximum	92	78	83	82	87	92	85	84	88	93	85	89	88	84	87	86	91	95	81	87	88	88	83	81	77	88	96	95	93	84	84	86.9
	Minimum	52	64	63	62	63	70	64	64	65	71	70	62	65	68	65	66	67	72	62	58	64	64	68	51	51	62	70	70	73	68	58	64.3
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	84	80	85	85	86	90	75	83	89	88	84	83	85	91	83	82	86	86	79	89	86	90	84	70	83	82	90	96	85	83	87	84.8
	Miuimum	56	54	64	58	52	66	65	59	62	59	60	60	59	60	58	59	59	54	52	52	51	52	51	45	48	47	50	49	63	58	47	55.8
Williston	Maximum	83	85	83	82	89	91	82	86	86	87	87	86	92	89	89	75	86	74	76	87	86	86	74	80	80	77	75	82	81	77	84	83.5
	Minimum	54	66	62	57	51	68	69	68	68	68	61	58	65	66	58	64	63	57	54	53	54	54	53	53	55	64	64	65	57	57	57	60.1
Willow City	Maximum	80	79	86	80	89	84	75	83	87	84	83	84	87	90	85	77	85	83	85	82	87	87	72	71	77	92	97	81	80	85	..	[a]83.3
	Minimum	50	55	61	58	59	66	60	61	68	67	64	58	52	62	62	58	56	64	43	51	51	51	53	40	50	63	68	64	59	47	..	[a]57.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
NO RAIN
Statute Miles
Kilometers
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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

AUGUST, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 30, 1916.

Departure of the Mean Temperature from the Normal, August, 1916.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., AUGUST, 1916. No. 8.

GENERAL SUMMARY.

Generally favorable weather conditions prevailed over the State during August. There was a slight excess in both temperature and precipitation, and there was more than the usual sunshine. Occasional light frosts were reported, but no serious damage resulted. There were several severe wind and electrical storms, resulting in considerable property damage and the loss of at least two lives. High wind velocities were reported from the northeast portion of the State, the anemometer at the University of North Dakota (near Grand Forks) recording at the rate of seventy-five miles per hour from the west on the 4th. Farm work made good progress, and practically all grain, except flax, was cut. Threshing was well started, but returns from wheat were poor. Oats and barley generally yielded well. Corn made rapid progress towards maturity, and gave promise of a fine crop.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.94 inches. The highest was 30.43 inches at Bismarck, Burleigh County, on the 12th; the lowest was 29.40 inches at Devils Lake, Ramsey County, and Williston, Williams County, on the 9th.

TEMPERATURE.

The mean temperature for the State was 66.0°, or 0.5° above the normal, and 1.6° higher than the mean for August, 1915. The highest mean reported was 70.4° at Forman, Sargent County; the lowest was 68.9° at Willow City, Bottineau County. The highest temperature reported was 100° at Cando, Towner County, on the 14th; the lowest was 26° at Melville, Foster County, on the 26th. Generally the highest temperature was recorded on the 18th, and the lowest on the 26th or 27th. The greatest daily range of temperature was 51° at McKinney, Renville County, on the 18th. The greatest monthly range of temperature was 70° at Cando, Towner County; the least was 50° at Bierman, Slope County.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 70 per cent, the average at 7 a. m. being 86 per cent, and at 7 p. m. 54 per cent.

PRECIPITATION.

The average precipitation for the State was 2.75 inches, or 0.43 inch above the normal, and 1.57 inches greater than the average for August, 1915. The greatest monthly amount reported was 5.38 inches at Willow City, Bottineau County; the least was 0.67 inch at Manfred, Wells County. The greatest amount recorded in any twenty-four consecutive hours was 2.90 inches at McHenry, Foster County, on the 3d. The average number of days with 0.01 inch or more of precipitation was 8. The distribution of precipitation was fairly uniform, both geographically and throughout the month. Stormy periods were from the 2d to 12th, inclusive, 20th to 22d, inclusive, and on the 25th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 7.3 miles. The greatest wind movement was 6,334 miles at Devils Lake, an average of 8.5 miles per hour; the least was 4,806 miles at Williston, an average of 6.5 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 75 miles per hour from the west at University (Grand Forks) on the 4th.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 16, partly cloudy days 10, and cloudy days 5.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cldy days.	
1892...	67.3	+1.8	105	24	2.29	−0.03	8	15	10	6	se.
1893...	66.7	+1.2	109	29	1.31	−1.01	3	20	7	4	nw.
1894...	68.8	+3.3	102	30	0.38	−1.94	4	17	10	4	nw.
1895...	64.5	−1.0	104	24	1.57	−0.75	5	17	11	3	nw.
1896...	64.7	−0.8	107	21	1.39	−0.93	5	17	10	4	nw.
1897...	64.1	−1.4	106	29	1.18	−1.14	5	15	10	6	nw.
1898...	65.4	−0.1	104	24	1.69	−0.63	5	15	11	5	nw.
1899...	65.2	−0.3	97	32	2.83	+0.51	6	15	11	5	se.
1900...	70.4	+5.1	114	33	5.06	+2.74	10	14	11	6	se.
1901...	66.9	+1.4	100	32	1.77	−0.55	6	18	8	5	nw.
1902...	64.3	−1.2	96	26	2.30	−0.02	8	16	9	6	s.
1903...	63.7	−1.8	103	35	4.68	+2.36	10	13	7	11	se.
1904...	63.3	−2.2	102	31	1.67	−0.65	6	17	7	7	nw.
1905...	67.5	+2.0	107	34	2.62	+0.30	7	17	8	6	nw.
1906...	66.3	+0.8	105	31	1.90	−0.42	7	17	6	8	se.
1907...	64.5	−1.0	104	26	1.89	−0.43	6	18	9	4	nw.
1908...	63.2	−2.3	104	25	2.28	−0.04	7	17	8	6	nw.
1909...	69.8	+4.3	109	27	2.25	−0.07	6	18	9	4	se.
1910...	63.1	−2.4	109	24	1.41	−0.91	5	14	8	9	nw.
1911...	62.2	−3.3	98	23	3.55	+1.23	8	12	11	8	nw.
1912...	63.4	−2.1	118	32	2.95	+0.63	10	11	10	10	nw.
1913...	68.9	+3.4	106	30	2.62	+0.30	6	16	10	5	nw.
1914...	64.2	−1.3	101	26	2.18	−0.14	7	13	11	7	nw.
1915...	64.4	−1.1	100	19	1.18	−1.14	4	19	8	4	se.
1916...	66.0	+0.5	100	26	2.75	+0.43	8	16	10	5	nw.

Climatological Data for August, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Alexander	McKenzie	.....	1	65.0[c]	.....	98[c]	3	32[c]	27	46[c]	2.56	.....	2.41	0	3	.....	.....	.....	.....	M. B. Johnson.
Amenia	Cass	954	20	67.0[b]	+0.8	95[c]	18	37	26	43[d]	3.51	+0.43	1.20	0	6	17	9	5	n.	E. T. Carley.
Ashley	McIntosh	2,001	19	66.4	+0.3	93	18	36	13	37	4.61	+2.28	1.82	0	7	22	4	5	ne.	R. C. Miles.
Beach	Golden Valley	2,576	10	64.6	.....	98	3	36	29	46	1.19	.....	0.61	0	6	20	7	4	nw.	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	22	66.5[b]	−1.6	95[b]	1	33[b]	26	45[c]	3.33	+1.60	2.68	0	5	20	6	5	.....	C. L. Hall.
Beulah	Mercer	1,910	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. W. Koester.
Bierman	Slope	.....	.....	65.1	.....	93	3	43	11	40	1.64	.....	1.20	0	6	16	5	10	se.	E. F. Bierman.
Bismarck	Burleigh	1,674	42	67.4	−0.7	97	16	40	13	41	1.97	−0.01	1.24	0	11	15	7	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	64.0	+0.9	96	18	34	11	42	4.75	+2.78	2.28	0	8	10	14	7	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	63.4	.....	91	† 1	35	29	48	2.77	.....	1.34	0	6	20	7	4	.....	G. H. Phelps.
Bowman	Bowman	.....	2	65.8	.....	98[a]	4	38	27	45[a]	1.42	.....	0.58	0	6	17	4	10	.....	L. S. Diehl.
Buford	Williams	1,944	37	66.0	−0.9	95	3	38	†11	43	1.70	+0.38	1.27	0	3	17	8	6	se.	P. Elmore.
Cando	Towner	1,488	15	68.2[d]	+6.2	100[c]	14	30[d]	26	50[c]	2.32	−0.21	0.90	0	6	.....	.....	.....	.....	E. T. Judd.
Carson	Morton	.....	4	.....	.....	98	† 6	.....	.....	.....	2.20	.....	1.25	0	4	19	7	5	.....	J. W. Evens.
Colgate	Steele	1,177	2	66.4	.....	90	17	35	26	46	3.19	.....	0.93	0	11	10	19	2	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	3.15	.....	1.40	0	5	21	10	0	nw.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	65.6	+0.5	93	18	39	26	36	3.16	+0.40	1.02	0	9	12	10	9	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	65.0	−1.6	97	3	33	27	43	1.77	−0.25	1.61	0	6	13	3	15	s.	J. C. Thysell.
Donnybrook	Ward	1,760	17	63.8	−1.1	91	† 1	35	27	39	2.01	−0.33	1.30	0	6	17	12	2	nw.	Geo. Michel.
Dunseith	Rolette	1,682	20	64.5	+1.0	95	18	35	13	47	4.47	+2.24	1.44	0	11	7	19	5	nw.	J. G. Lamont.
Eckman	Bottineau	.....	11	63.8	.....	96	18	31	†26	42	3.44	.....	2.04	0	6	14	14	3	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	66.7	+0.2	97	18	38	26	39	2.90	+0.55	1.42	0	7	6	20	5	nw.	O. A. Thompson.
Energy‡‡	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	2.33	.....	1.81	0	6	17	11	3	s.	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	1.69	.....	1.43	0	3	21	8	2	e.	M. E. Uggen.
Fessenden	Wells	1,610	4	65.2	.....	98	17	33	13	45	1.04	.....	0.33	0	7	26	1	4	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	70.4[a]	+2.8	97[a]	18	46[a]	13	35[a]	4.09	+1.12	1.93	0	10	.....	.....	.....	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	67.0	+0.9	94	18	41	†13	36	4.24	+1.32	2.09	0	6	19	7	5	s.	F. O. Alin.
Garrison	McLean	1,901	21	64.2[a]	−1.6	94[a]	† 3	35[a]	27	44[a]	2.14	+0.25	2.08	0	2	18	9	4	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	65.4	.....	95	3	37	27	41	2.11	.....	1.40	0	4	18	9	4	nw.	C. H. Layman.
Grafton	Walsh	827	24	66.0	+1.7	90	18	34	27	44	2.48	−0.22	0.88	0	10	20	2	9	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	66.8	.....	98	18	36	13	41	3.23	.....	1.45	0	5	22	4	5	s.	G. H. Leick.
Granville	McHenry	1,504	9	65.4	.....	95	18	35	†26	40	3.75	.....	2.63	0	6	16	13	2	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	11	64.6	.....	97	18	34	27	45	1.31	.....	0.87	0	4	19	10	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	63.8[b]	.....	96[b]	18	32[b]	26	40[b]	1.93	.....	0.90	0	6	.....	.....	.....	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	8	66.4	.....	95	3	37	27	45	2.05	.....	0.84	0	7	22	1	8	nw.	A. J. Ogaard.
Hillsboro	Traill	901	10	67.0	.....	93	18	39	26	39	5.37	.....	1.80	0	9	16	13	2	nw.	F. E. Mayall.
Howard	Williams	2,275	7	65.0	.....	92	15	34	11	42	1.87	.....	1.80	0	3	15	12	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	65.8	−0.4	97	18	39	13	39	3.11	+0.40	0.75	0	11	12	9	10	nw.	S. Calvelage.
Lakota	Nelson	1,579	15	63.4	+0.4	93	17	34	26	49	2.55	+0.08	1.75	0	8	4	25	2	sw.	C. R. Pettes.
Lamoine	Kidder	1,936	8	64.4	.....	94	† 3	37	27	42	3.04	.....	1.36	0	4	18	8	5	w.	E. V. Virgin.
Langdon	Cavalier	1,615	20	64.4	.....	95	18	35	26	39	2.16	.....	1.03	0	7	21	1	9	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	65.3	+1.3	93	18	38	13	37	2.18	−0.80	0.64	0	10	12	9	10	.....	G. G. Graham.
Lisbon	Ransom	1,091	12	66.6	+0.5	94	18	37	13	38	3.96	+2.04	1.03	0	9	13	8	10	nw.	W. S. Adams.
McHenry	Foster	1,509	6	66.6	.....	94	18	37	†26	38	4.16	.....	2.90	0	5	25	4	2	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22	64.5	+1.3	99	† 3	34	27	51	2.78	+1.21	1.30	0	7	12	17	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	4	68.8	.....	94	17	40	11	33	3.27	.....	1.48	0	10	22	4	5	ne.	E. W. Griggs.
Maddock	Benson	.....	1	66.2	.....	95	18	35	†13	42	3.47	.....	1.10	0	5	14	5	12	nw.	F. P. Crowing.
Mandan	Morton	1,644	2	67.3	.....	98	3	40	13	39	1.96	.....	0.73	0	10	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	66.0	+2.3	97	18	34	26	40	0.67	−1.75	0.33	0	7	17	10	4	nw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	1.72	.....	1.63	0	2	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	64.5	.....	96	3	38[a]	27	44[a]	2.09	.....	1.05	0	10	20	4	7	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	64.8[a]	.....	93[a]	17	31[a]	27	45[a]	3.32	.....	1.17	0	6	13	15	3	nw.	H. H. McCumber.
Mayville	Traill	975	20	67.7	+1.7	96	18	37	26	40	3.35	+0.12	1.52	0	8	22	5	4	nw.	W. C. Gould.
Melville	Foster	1,590	18	68.0[a]	+1.9	94[a]	† 3	26[a]	26	42	2.15	0.00	0.84	0	4	.....	.....	.....	sw.	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	3.58	.....	1.40	0	6	20	4	7	nw.	Hj. Ednan.
Minot	Ward	1,557	20	67.6	+5.4	96[a]	18	40	27	37[a]	2.70	+0.46	2.15	0	6	6	24	1	nw.	W. I. Faris.
Minto	Walsh	820	23	68.0	+3.4	96	18	35	26	40	1.80	−0.84	0.65	0	9	15	10	6	se.	C. M. Evans.
Mott	Hettinger	2,424	9	67.5	.....	93	† 1	36	27	45	3.16	.....	1.04	0	7	16	6	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	65.5	−0.7	96	18	35	13	42	3.16	+0.65	1.30	0	10	22	2	7	s.	C. J. Hoof.
New England	Hettinger	2,400	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,163	11	66.2	−0.4	98	18	37	12	45	2.11	+0.29	0.80	0	9	19	9	3	nw.	J. Christianson.
Orange‡‡	Adams	2,586	7	66.4	.....	98	18	36	27	41	1.97	.....	0.83	0	5	22	1	8	nw.	J. E. Goforth.
Oriska	Barnes	1,270	11	67.3	+1.9	95	18	38	26	38	4.13	+1.48	1.38	0	12	14	14	3	sw.	J. J. Taylor.
Park River	Walsh	998	12	67.9	+2.3	97	18	37	26	45	2.01	−0.65	0.82	0	7	.....	.....	.....	nw.	F. A. McCray.
Parshall	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	3.05	.....	2.65	0	3	25	4	2	sw.	J. A. Johnson.
Pembina	Pembina	789	42	66.3	+2.4	99	18	38	13	37	2.25	−0.13	0.86	0	7	23	7	1	sw.	C. W. Shumaker.
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	2.05	.....	1.70	0	6	17	9	5	ne.	C. Frank.
Steele	Kidder	1,857	19	69.6	+3.3	97	18	48	†13	36	4.54	+2.26	1.22	0	11	19	11	1	nw.	H. S. Wood.
Taylor	Stark	2,493	.....	66.6	.....	94	4	39	27	41	2.00	.....	1.53	0	6	6	21	4	nw.	H. Leutz.
Towner	McHenry	1,482	14	66.2	+2.2	97	18	33	27	42	2.79	+0.42	1.33	0	5	7	18	6	w.	B. Bagley.
Turtle Lake	McLean	1,899	4	66.1	.....	94	18	38	27	40	1.85	.....	1.60	0	3	19	10	2	nw.	E. J. Jones.
University	Grand Forks	830	24	65.6	+0.8	95	18	34	26	40	3.57	+0.94	1.34	0	10	14	14	3	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	67.4	0.0	94	18	39	26	36	4.85	+1.62	1.65	0	11	22	4	5	se.	F. E. Smith.
Walhalla	Pembina	966	9	67.8[b]	.....	96	† 3	36[b]	†13	41	2.66	.....	0.95	0	5	14	12	5	w.	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	63.8	.....	96	18	37	†26	44	2.67	.....	1.17	0	6	3	26	2	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	64.8	−3.1	95	3	39	27	38	1.95	+0.64	1.21	0	8	13	15	3	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	62.9	−0.9	97	18	34[f]	26	43[f]	5.38	+3.43	1.59	0	8	7	20	4	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	64.8	.....	97	13	34	27	45	2.15	.....	1.69	0	5	14	10	7	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	67.2	+1.3	95	18	42	26	37	2.87	−0.23	0.93	0	11	22	6	3	se.	U. S. Weather Bureau.
Averages				66.0	+0.5	100	14	26	26	51	2.75	+0.43	.....	0	8	16	10	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for August, 1916.

Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri					2.41																.05				.10					T.		2.56
Ameuia ‖ ‖	Red				1.20		.60	T.		.45	T.		T.							.29		.52	.45								T.	3.51
Ashley	Missouri		1.29					.05				.15									.65	1.82	.25			.40							4.61
Beach	Lit. Missouri		.16	T.	.61							.09							.05			.24					.04					1.19
Berthold Agency	Missouri		.28			2.68	T.		T.	T.	.02	T.						T	.02						.33						T.	3.33
Beulah	Missouri																																
Bierman	Lit. Missouri	.10				1.20						.10				.01	.10					.13											1.64
Bismarck ***	Missouri		T.	.19	T	.26	.01			T.		.04	.02				.08				.10	1.15	.01			.10	.01						1.97
Bottineau ‖ ‖	Mouse		.43	.04	.74		1.00			2.28	.05	T.														.01					.20		4.75
Bowbells ‖ ‖	Mouse		.37		.42		1.34				.58						.03									.03							2.77
Bowman	Grand			.02			.58					.04					.29				.05		.44										1.42
Buford	Missouri	T.		.22		1.27					T.			T.								.21				T.	T.				T.		1.70
Cando	Sheyenne	.13		.15	.88	.90				.15												.11											2.32
Carson	Heart					.75										.05				.15	1.25												2.20
Colgate	Sheyenne		T.		.49	T.	.60	.30		.12		T.					.33		.05		.01	.93	.06				.07					.23	3.19
Cooperstown	Sheyenne			1.40		.80	.10															.65									.20		3.15
Crosby	Mouse																																
Devils Lake ***	Sheyenne		.54	1.02	T.	.47	T.		.95	.02	.05						T.				T.	.06				.02	T.			T.	T.	.03	3.16
Dickinson ‖ ‖	Heart		.06	.01			1.61	T.	T.			T.	.02	T.			.01	T.				T.	.06			T.	T.	T.					1.77
Donnybrook	Mouse	.11	.07	.32		1.30							.16													.05							2.01
Dunseith	Mouse		.06	.85	.40	.98	.38		.02	1.44	.01				T.					.03						.02			.01	T.	.27		4.47
Eckman	Mouse		.39	.12		2.04			.41	.09		T.													T.				T.	T.		.39	3.44
Edgeley	James			.32			.36					T.	.27								.16	1.42	.25			.12							2.90
Energy	Missouri		.08		T.		1.81		.07			T.										.09				.27	T.					.01	2.33
Epping	Missouri			.08		1.43					T.			T.								T.				.18							1.69
Fessenden ‖ ‖	James			T.	.06		.33	T.		.10		.05										.17	.28			.05							1.04
Forman	Sheyenne			.10			.24			.50	.50	.05	.16						.18		1.93		.15			.28							4.09
Fullerton	James		.23			.95	T.					.02									.45	2.09				.50							4.24
Garrison	Missouri		.06			2.08																											2.14
Goodall	Missouri		.37			1.40								.10												.24							2.11
Grafton ‖ ‖	Red				.53		.88			.27	.01											.04	.16			.12		.08			.15	.24	2.48
Grand Rapids	James			1.00			.18					T.	.50								.10	1.45				T.							3.23
Granville	Mouse		.20	.54		2.63			.05		.08									T.					.25				T.				3.75
Hannah	Pembina					.87				.27																.06					.11		1.31
Hansboro	Red			.10		.90	.40		.40													.08				.05							1.93
Hettinger	Grand					.80	T.					.09	.03				.14	.04				.11	.84										2.05
Hillsboro	Red					1.80			.32	.19		.38									.15		1.30	.05		T.						1.02	5.37
Howard	Missouri						1.80				.02															.05					T.		1.87
Jamestown ‖ ‖	James				.20		.66	.14		.75	.04		.05				.03					.56	.43			.18						.07	3.11
Lakota	Sheyenne		T.		1.75	.13	.16			.23		.02					.10					.15					.01				T.		2.55
Lamoine	Missouri					1.36			.12				T.									*	1.31			.25							3.04
Langdon ‖	Pembina				1.03		.53			.30	.02															.11					T.	.10	.07	2.16
Larimore ‖	Red				.64		.18	.09		.47	.25								.01	.10		T.	.30					.07				.04	2.18
Lisbon ‖	Sheyenne				.35		.70	.10		.60			.50								.17	1.03	.42			T.	.09						3.96
McHenry	James			2.90			.30		.28								.23					.45											4.16
McKinney	Mouse		.35	.15		1.30			T.	.30	T.						.10									T.				.23		.35	2.78
McLeod	Sheyenne				.15		.45			.16	.04		.54							.07	.14	1.48	.08			.16							3.27
Maddock	Sheyenne				1.10	.90	.61					.70										.16											3.47
Mandan ‖ ‖	Missouri				.07		.36	.01		T.			.07							.08	.01	.49	.73			.08		.06					1.96
Manfred	Sheyenne		.02	.05	T.	.03	.13	T.	T.	T.		.06										.33	T.			.05							0.67
Manning	Knife		.09			1.63																											1.72
Marmarth	Lit. Missouri		.02			1.05	.02					.02	.01				.70	.10			.03	.10					.04						2.01
Marstonmoor	James		T.			.45	T.	1.08	T.		.30	T.					T.	T.			T.	1.17	.21			.11	T.				T.		3.32
Mayville	Red				1.52		.85	.08		.39												.05	.05			.05						.30	2.35
Melville	James		T.	.48			.55	T.									T.	T.			T.	.84	.28										2 15
Milnor	Red			T.			.68				.52		.33	T.							.50	1.40	.15			T.							3 58
Minot ‖	Mouse			.24	.15		2.15					.07		.02												.07							2 70
Minto	Red			.65			.42		.14	.05										.04		.05				.15	.02				.28		1 80
Mott	Cannon Ball			.10		.60						.02					.21	.10			.09	1.04											2 16
Napoleon ‖	Missouri			.15	.03		.35	.25			.02		.46									.40	1.30			.10		.10					3 16
New England	Cannon Ball																																
New Salem	Heart				.11	.80	.03		.02			T.	.06		.03		T.				.06	.78				.22	T.						2.11
Orange	Cannon Ball					.73	.03					.13									.25	.83											1.97
Oriska	Sheyenne		.01		.08	T.	1.10	.08		1.38	.05	T.	.04				.07				.07	1.12	.07									.09	4.13
Park River	Red				.82		.53			.13	.03											.04				.10					.36		2.01
Parshall	Missouri		.35			2.65				.05																							3.05
Pembina ‖	Red				.84		.86			.21	.18	T.											.04			.08				T.		.04	2.25
Power	Sheyenne																																
Powers Lake	Missouri			T.		1.70				.03	.01	.02		.04												.25						T.	2.05
Steele	Missouri		T.	.11	.21	T.	1.22	.12		1.00				.12							.04	.74	.73	.08		.17							4.54
Taylor	Heart					1.53	.01					.01					.03					.32				.10							2.00
Towner	Mouse		.47	.85	1.33					.08					T						.06									T.	T.		2.79
Turtle Lake	Missouri		.10			1.60			T.			T.										T.				.15							1.85
University	Red			.72		.23	.03		.09								.31				.28		.48	.04		.05	T.			T.	1.34		3.57
Wahpeton ‖	Red							.05			1.64		.75	.15	.05			.03			.12	.05	1.65	.26		.10							4.85
Walhalla	Pembina				.50			.95		.87														.04							.30		2.66
Washburn	Missouri																																
Westhope	Mouse			.72	.04	1.17			.61	.06						.07															T.		2.67
Williston ***	Missouri	.38	T.	.08		1.21	T.		.02		.04			.03								T.			.15	.04					T.		1.95
Willow City	Mouse		.35	1.05	.51	1.59	.07		1.27	.51											T.					.03							5.38
Zap	Knife		.12			1.69	.01					T.										.11				.22							2.15
Moorhead, Minn ***	Red			.08	.29	.18	.26			.66					.01		.06				.28	.14	.90								.01			2.87

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	95	92	98	81	76	79	76	86	86	68	60	69	68	85	91	92	89	..	84	77	70	..	..	89	75	79	77	88	84	88	78	[c]81.4
	Minimum	54	58	61	58	58	53	47	52	46	44	35	49	39	65	55	51	55	..	41	39	42	..	..	45	50	50	32	42	43	53	44	[c]48.6
Amenia §§	Maximum	85	91	92	84	81	..	..	..	..	..	..	..	72	71	82	93	91	95	83	69	61	82	89	75	70	74	78	86	70	80	72	[c]80.2
	Minimum	57	64	62	62	55	60	57	54	60	58	47	49	41	50	53	57	61	69	69	53	54	49	51	53	53	37	40	43	49	47	51	53.7
Ashley	Maximum	84	91	89	80	78	75	80	87	88	78	65	63	65	76	88	90	91	93	81	70	56	75	85	79	66	72	81	75	70	83	75	78.4
	Minimum	62	68	62	63	60	61	53	56	64	54	44	48	36	55	56	61	66	66	60	54	52	45	50	54	44	40	49	50	50	46	52	54.4
Beach	Maximum	93	93	98	77	73	73	85	89	83	77	59	56	66	85	96	93	89	84	73	76	74	82	89	82	66	67	80	88	80	91	85	[c]80.7
	Minimum	61	61	61	57	53	48	44	58	59	45	42	45	46	51	40	56	55	55	41	44	41	42	44	47	49	50	36	42	36	48	44	48.4
Berthold Agency	Maximum	95	90	82	82	62	..	79	87	87	67	56	60	63	70	93	89	86	80	64	65	65	66	89	75	55	64	..	66	66	75	63	[b]73.8
	Minimum	58	62	69	55	43	..	42	55	55	48	37	49	41	57	48	61	60	56	47	41	48	46	40	50	49	33	..	41	43	52	41	[b]49.2
Bismarck	Maximum	89	91	96	79	79	67	84	90	90	75	59	68	66	86	95	97	95	93	79	71	56	82	90	75	67	67	75	83	74	91	79	80.3
	Minimum	62	67	64	59	53	58	54	59	64	51	47	50	40	58	54	65	67	67	53	51	49	46	50	55	52	48	41	49	50	52	52	54.4
Bottineau §§	Maximum	90	90	93	76	71	70	81	87	84	68	63	68	71	79	89	92	89	96	74	78	73	80	87	74	70	75	74	85	69	79	61	78.6
	Minimum	59	63	60	54	54	51	49	54	60	49	34	39	41	53	49	58	63	66	48	41	51	47	45	47	45	40	36	46	44	47	43	49.5
Bowbells §§	Maximum	91	90	90	80	67	61	80	84	80	66	60	77	75	82	89	91	87	88	72	80	68	80	86	80	85	80	77	85	80	78	66	79.3
	Minimum	57	57	59	53	51	54	49	52	57	48	36	39	40	42	49	57	53	58	47	41	47	50	53	44	45	43	43	37	35	41	37	47.5
Carson	Maximum	90	93	94	81	95	98	82	93	94	95	62	63	64	85	92	93	95	98	78	66	65	79	87	87	88	65	62	80	75	86	78	82.8
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Colgate	Maximum	82	85	84	81	79	78	75	78	86	73	70	73	65	71	81	85	90	88	80	72	80	82	78	78	78	74	84	89	85	88	78	79.7
	Minimum	54	55	69	60	52	57	55	50	62	55	47	53	36	50	55	56	65	70	62	48	45	48	50	50	55	35	54	43	45	52	54	53.1
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	85	87	91	76	74	70	80	85	87	71	61	66	60	73	88	91	92	93	78	78	67	80	86	70	65	68	74	84	66	86	67	77.7
	Minimum	62	65	62	57	54	58	56	58	65	47	41	43	41	53	57	64	64	69	57	54	54	53	55	50	44	39	41	53	46	50	46	53.5
Dickinson	Maximum	93	92	97	77	72	72	81	87	83	71	51	61	62	83	91	91	91	88	75	73	57	81	89	79	69	66	74	85	77	89	81	78.6
	Minimum	57	65	60	59	55	57	48	56	62	50	42	46	41	57	48	60	60	60	48	48	45	44	46	54	49	48	33	45	46	52	50	51.3
Donnybrook	Maximum	91	90	90	73	70	73	80	85	84	78	60	66	70	81	88	91	88	91	77	79	70	80	88	76	66	69	74	86	68	79	64	78.2
	Minimum	60	62	57	55	48	54	51	56	55	46	37	44	39	56	49	62	55	60	48	41	46	51	52	48	46	42	35	47	38	49	41	49.4
Dunseith	Maximum	85	86	90	74	72	70	78	85	85	82	84	64	68	75	88	88	88	95	91	76	74	78	82	78	66	67	73	82	64	75	73	78.6
	Minimum	60	61	55	54	52	66	50	51	60	48	37	41	35	54	52	61	61	72	54	41	51	52	44	48	46	36	37	42	41	49	41	50.4
Edgeley	Maximum	86	91	90	85	79	76	79	87	89	88	72	64	68	76	91	93	93	97	86	78	59	78	85	72	66	66	73	83	75	82	71	79.9
	Minimum	59	68	61	62	54	62	55	52	66	55	43	49	37	50	57	58	67	64	61	53	53	48	52	53	51	38	45	45	47	43	52	53.5
Fessenden §§	Maximum	89	89	94	76	74	70	83	89	90	75	66	70	72	82	93	95	98	97	82	83	59	82	89	75	68	71	78	86	73	89	76	81.1
	Minimum	54	62	60	57	50	57	50	50	57	51	37	43	33	52	48	55	60	63	53	47	50	49	45	48	49	34	35	47	45	44	40	49.2
Forman	Maximum	87	93	94	92	80	79	82	89	92	74	72	64	72	68	89	93	96	97	..	89	65	79	87	84	72	68	78	84	79	87	84	[a]82.4
	Minimum	64	72	68	69	62	66	60	58	72	60	49	50	46	58	60	65	71	71	..	58	54	49	54	60	54	45	48	50	53	52	58	[a]58.5
Fullerton	Maximum	90	90	88	82	78	79	80	85	90	72	63	63	68	74	88	92	91	94	81	61	58	76	84	71	66	67	72	80	68	80	74	77.6
	Minimum	72	76	74	65	61	63	62	65	68	50	44	50	41	55	55	60	65	67	61	53	53	47	52	57	52	41	43	45	51	44	53	56.3
Garrison	Maximum	89	85	94	77	68	71	81	86	85	63	58	66	..	82	89	91	92	94	78	74	61	82	88	71	65	68	74	86	87	90	68	[a]78.8
	Minimum	67	57	61	56	51	56	50	56	49	37	48	38	..	56	49	62	52	60	48	48	45	46	47	48	50	45	35	46	45	46	43	[a]49.5
Grafton §§	Maximum	87	90	94	80	78	77	82	85	83	75	68	69	73	76	90	90	95	98	86	81	67	84	90	75	69	71	78	86	70	82	67	80.5
	Minimum	51	64	58	59	49	60	57	53	65	57	39	37	35	52	53	58	64	67	70	48	56	53	50	53	49	35	34	45	45	40	44	51.6
Granville	Maximum	91	87	94	89	75	72	80	87	84	78	60	67	70	80	78	92	92	95	76	75	70	80	85	74	70	72	70	89	67	70	72	78.7
	Minimum	57	65	64	62	53	55	52	55	57	43	38	47	38	58	53	60	62	63	62	65	55	50	52	52	48	35	35	49	45	42	40	52.0
Hannah	Maximum	84	86	92	82	76	84	83	81	82	78	70	68	70	81	89	91	93	97	81	78	82	83	88	71	65	70	75	80	84	75	61	80.0
	Minimum	59	61	64	58	51	52	51	53	53	52	38	37	35	51	52	58	61	68	57	50	46	47	47	52	45	36	34	38	39	40	39	49.2
Hansboro	Maximum	85	87	90	77	72	74	89	85	85	75	65	..	70	..	90	90	95	96	77	80	77	80	86	72	66	70	75	84	74	78	68	[b]79.7
	Minimum	58	60	60	50	44	55	52	58	55	40	40	..	35	..	50	52	60	60	50	40	50	50	51	50	44	32	37	45	34	40	40	[b]48.0
Hettinger	Maximum	91	92	95	87	80	76	82	92	92	82	68	58	60	85	91	92	90	94	78	63	58	79	88	72	70	63	75	85	82	79	75	79.8
	Minimum	62	67	63	65	59	58	50	58	59	52	45	46	44	57	46	60	63	61	48	53	49	46	44	59	53	49	37	45	52	52	45	53.1
Howard	Maximum	90	88	80	72	67	76	83	82	84	76	62	69	70	88	92	75	95	86	80	75	81	84	87	82	78	78	77	81	78	77	68	79.4
	Minimum	57	57	58	53	51	45	48	47	44	34	45	48	52	54	35	56	60	40	40	49	40	48	42	46	42	46	35	42	40	45	36	46.5
Jamestown §§	Maximum	81	90	93	80	79	66	81	87	89	73	65	66	69	81	91	95	95	97	81	69	60	80	86	72	66	70	75	84	72	87	72	79.1
	Minimum	59	63	65	61	56	59	53	52	58	55	44	47	39	45	53	58	64	68	61	54	51	49	51	45	49	40	41	46	47	48	50	52.6
Lakota	Maximum	81	88	79	65	64	65	67	75	85	72	63	68	70	73	89	90	93	92	89	78	65	82	85	71	66	72	73	81	66	84	75	76.3
	Minimum	54	66	59	60	53	59	52	50	65	52	39	39	39	52	49	62	62	62	60	60	53	51	46	47	48	34	37	41	41	35	43	50.6
Lamoine	Maximum	88	90	94	78	84	68	80	88	86	74	63	66	68	82	88	91	91	94	77	75	64	79	81	78	65	68	72	81	88	88	74	79.1
	Minimum	58	58	56	58	54	57	51	54	62	50	37	46	37	43	63	60	61	64	50	48	47	46	41	46	48	38	37	45	46	47	44	49.7
Langdon	Maximum	86	82	93	78	73	70	77	85	80	70	61	67	72	72	89	92	93	95	83	79	73	80	86	86	65	67	74	82	67	79	65	78.1
	Minimum	58	62	56	57	51	55	51	52	60	51	37	42	39	49	48	57	62	68	59	50	55	50	47	48	45	35	57	46	40	44	42	50.7
Larimore §§	Maximum	83	87	89	76	77	77	78	83	85	70	65	64	70	71	88	89	90	93	80	76	63	78	85	72	65	70	74	70	66	82	68	76.9
	Minimum	57	60	65	63	54	61	58	56	66	56	54	40	38	52	56	66	69	68	51	54	54	52	48	40	40	42	44	45	48	53	7	53.7
Lisbon §§	Maximum	82	93	92	84	79	71	80	86	89	73	66	65	68	70	90	92	92	94	72	66	62	80	85	74	79	74	75	75	83	83	73	78.9
	Miuimum	58	68	65	64	56	64	58	54	64	59	44	50	37	51	56	57	67	70	66	52	53	48	47	55	48	38	43	45	48	45	53	54.3
McHenry	Maximum	87	87	86	84	89	70	79	86	89	73	60	64	72	77	89	91	93	94	80	77	62	78	80	84	65	65	77	84	76	86	69	79.1
	Minimum	60	70	72	73	68	59	59	56	65	53	52	46	45	39	65	52	65	70	58	50	53	50	51	49	50	37	37	42	39	49	45	54.1
McKinney	Maximum	93	92	99	99	75	75	85	88	82	70	65	71	72	84	91	92	90	97	78	83	73	83	82	77	70	72	78	90	72	78	60	81.2
	Minimum	51	58	55	55	56	56	51	52	55	45	36	45	35	54	45	60	55	46	46	43	44	45	58	45	44	35	34	54	40	41	42	47.8
Maddock	Maximum	86	88	93	93	74	70	80	86	87	86	68	67	70	77	89	92	93	95	90	78	75	81	88	85	70	71	75	85	84	87	77	81.9
	Minimum	54	63	64	57	52	58	52	50	62	51	38	40	35	54	53	57	58	65	58	46	53	50	50	48	49	34	35	48	44	45	40	50.4
Marmarth	Maximum	91	90	96	80	66	74	81	88	78	73	62	55	68	81	91	88	86	80	71	64	63	79	88	80	69	67	75	85	83	88	87	78.3
	Minimum	62	61	63	..	55	57	50	56	61	49	42	44	47	53	48	58	55	57	45	51	47	43	44	48	52	47	38	42	51	48	47	[b]50.7
Minot §§	Maximum	93	95	..	77	63	74	85	91	88	72	63	70	74	84	95	95	93	96	76	86	73	82	90	77	70	74	77	87	72	87	73	[a]81.1
	Minimum	52	73	67	58	52	56	55	60	58	52	40	47	41	60	55	66	65	65	57	60	55	51	55	50	47	45	40	50	45	57	42	54.1
Mott	Maximum	93	90	93	85	89	78	83	93	88	80	74	71	68	84	92	93	90	83	76	66	80	89	83	76	73	71	83	87	82	80	82.5	
	Minimum	74	70	60	65	62	53	56	64	60	53	47	44	40	53	62	65	62	47	52	48	47	44	44	48	47	41	36	44	47	50	43	52.5
Napoleon §§	Maximum	88	96	95	83	82	66	82	91	95	75	57	65	67	82	94	95	95	96	82	70	55	80	86	73	68	66	75	83	75	86	80	80.1
	Minimum	57	60	60	62	53	55	52	52	61	53	45	45	35	40	55	54	62	65	55	52	50	45	46	50	53	41	40	43	45	46	46	50.9
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	89	91	93	86	78	75	83	91	85	75	67	63	75	75	93	95	84	98	83	78	56	90	89	73	75	68	79	83	75	90	88	81.4
	Minimum	53	66	57	57	50	52	49	53	55	49	43	37	43	44	57	63	63	55	54	56	49	45	49	52	50	44	40	51	44	47	50	50.9
Orange	Maximum	91	92	97	82	83	69	82	93	88	75	59	58	61	86	90	95	90	98	78	64	53	79	88	77	67	68	74	83	78	90	79	79.9
	Minimum	62	67	62	60	58	55	50	61	65	52	42	47	43	55	49	60	64	64	56	49	50	45	48	50	51	44	36	45	51	54	44	53.0
Oriska	Maximum	87	90	93	83	79	74	82	87	88	77	75	72	70	72	93	92	93	95	83	69	69	82	88	76	67	71	77	87	72	84	76	80.7
	Minimum	72	67	60	65	54	63	56	54	54	52	48	48	41	54	57	57	65	66	52	55	53	50	53	54	44	38	47	55	46	46	46	53.9
Park River	Maximum	88	87	95	85	77	75	80	86	85	85	71	67	72	75	90	91	93	97	91	..	82	83	90	84	77	70	76	..	89	85	72	[b]82.7
	Minimum	51	69	58	61	52	59	58	59	65	56	41	39	40	52	57	57	64	66	65	..	51	51	56	55	49	37	40	..	45	40	46	[b]53.1
Pembina §§	Maximum	86	92	96	79	82	79	84	82	81	72	61	61	76	74	88	91	96	99	88	81	81	81	84	72	72	68	71	69	84	71	81	78	80.2
	Minimum	61	62	58	58	54	52	54	54	58	52	41	42	38	51	52	56	61	64	63	63	56	57	56	54	48	41	44	47	42	44	42	52.4
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	88	93	93	85	75	74	80	88	87	84	66	67	76	80	90	93	93	97	89	79	73	82	87	83	69	70	74	84	84	81	74	81.7
	Minimum	58	67	64	55	50	59	50	54	61	52	37	38	43	55	48	60	60	63	51	43	55	48	57	50	48	36	33	46	44	49	40	50.8
Turtle Lake	Maximum	86	84	91	75	70	70	80	87	84	75	60	67	67	82	90	91	92	94	75	78	67	80	88	75	65	68	73	84	70	87	90	78.9
	Minimum	58	67	60	58	50	57	53	55	63	51	41	49	38	56	52	63	60	62	55	50	48	50	50	45	38	50	46	50	60	53	3	53.3
University	Maximum	84	87	90	79	80	74	80	83	84	72	66	66	71	74	90	90	90	95	83	72	62	80	88	73	66	68	75	85	68	82	66	78.2
	Minimum	56	63	60	62	54	62	59	55	66	50	47	42	39	54	54	58	69	71	55	53	58	52	52	54	42	34	38	45	47	47	47	53.1
Wahpeton §§	Maximum	84	93	91	86	78	77	81	86	88	73	71	68	72	69	89	92	93	94	85	71	64	80	85	74	69	70	75	83	69	80	75	79.5
	Minimum	58	65	65	65	58	65	60	55	62	56	46	48	41	51	55	61	65	65	71	58	54	49	50	57	51	39	42	47	51	48	54	55.2
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	91	92	91	76	65	72	76	86	81	76	61	67	73	82	90	91	89	96	75	81	72	80	87	76	65	71	76	80	85	76	65	78.8
	Minimum	57	60	62	57	51	56	55	51	57	51	39	46	40	38	39	52	58	66	51	43	51	49	50	50	46	37	37	39	41	43	42	48.8
Williston	Maximum	92	87	95	74	64	74	80	82	82	64	61	67	66	85	90	92	88	84	72	78	70	81	88	77	62	66	74	83	75	78	78	77.5
	Minimum	63	63	62	58	56	56	52	61	54	42	40	51	45	55	54	63	57	57	49	43	50	51	54	52	52	45	39	45	46	56	44	52.1
Willow City	Maximum	87	89	88	75	73	70	80	87	84	69	60	66	70	80	89	90	92	97	75	79	71	82	85	71	67	65	74	84	67	76	63	77.6
	Minimum	54	60	61	..	..	..	..	..	..	51	38	45	37	51	46	59	61	66	52	43	54	50	45	50	43	34	36	41	41	49	39	[a]48.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEPTEMBER, 1916

BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
OCTOBER 27, 1916.

Departure of the Mean Temperature from the Normal, September, 1916.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., SEPTEMBER, 1916. No. 9.

GENERAL SUMMARY.

While rains interfered somewhat with the harvesting of late crops and threshing, the weather was, on the whole, generally favorable for farm work. There was less than the usual amount of fall plowing done, owing to the uneven distribution of rainfall over the State. The temperature averaged slightly below the normal. Considerable damage to corn and late flax was caused by the general freezing temperature which occurred on the 15th. Feed on the ranges and pastures was excellent, and livestock was in fine condition at the close of the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.91 inches. The highest was 30.49 inches at Bismarck, Burleigh County, on the 28th; the lowest was 29.40 inches at Devils Lake, Ramsey County, on the 30th.

TEMPERATURE.

The mean temperature for the State was 55.1°, or 1.3° below the normal, and 0.5° higher than the mean for September, 1915. The highest mean reported was 59.4° at Power, Richland County; the lowest was 49.8° at Berthold Agency, McLean County. The highest temperature reported was 99° at Bowman, Bowman County, on the 3d; the lowest was 15° at Minot, Ward County, on the 15th. The greatest daily range of temperature was 60° at Minot, Ward County, on the 30th. The greatest monthly range was 83° at Minot, Ward County; the least was 58° at McLeod, Ransom County. The distribution of temperature was quite uniform.

HUMIDITY.

The average relative humidity, as determined from the reports of five stations, was 74 per cent, the average at 7 a. m. being 87 per cent, and at 7 p. m. 60 per cent.

PRECIPITATION.

The average precipitation for the State was 1.62 inches, or exactly the normal, and 0.77 inch less than the average for September, 1915. The greatest monthly amount reported was 5.64 inches at Power, Richland County; the least was 0.03 inch at Manning, Dunn County. The greatest amount recorded in any twenty-four consecutive hours was 4.52 inches at Power, Richland County, on the 9-10th. The average number of days with 0.01 inch or more of precipitation was 6. Traces of snow occurred at eight stations. The distribution of precipitation was uneven geographically, but was fairly evenly distributed throughout the month. Particularly stormy periods were the 1st, 6th to 16th, inclusive, 20th-22d, and 25-27th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.3 miles. The greatest wind movement was 7,647 miles at Devils Lake, an average of 10.6 miles per hour; the least was 5,742 miles at Moorhead, an average of 8.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 40 miles per hour from the northwest at Bismarck on the 20th.

SUNSHINE AND CLOUDINESS.

There was slightly more than the usual sunshine; the average number of clear days was 14, partly cloudy days 9, and cloudy days 7.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.78	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.81	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.24	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.85	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.21	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.34	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.37	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.28	−1.34	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.33	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.39	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.89	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	3.01	+1.39	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.03	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	+0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.42	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.23	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.51	4	17	7	6	nw.
1909...	59.0	+3.6	93	24	0.86	−0.76	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.34	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.87	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.06	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.13	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.56	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.77	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	0.00	6	14	9	7	nw.

Climatological Data for September, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie		1	54.0		93	3	20	22	50	1.18		0.58	0	5	13	13	4	w.	M. B. Johnson.
Amenia	Cass	954	20	55.2	−2.1	89	3	26	29	49	2.54	+0.49	1.49	0	7	11	13	6	n.	E. T. Carley.
Ashley	McIntosh	2,001	19	55.4[e]	−1.5	88[e]	3	24[e]	15	42[d]	0.82	−0.11	0.60	0	3				nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	55.2		97	3	21	22	56	1.75		0.55	0	6	23	2	5	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	22	49.8	−7.8	79	† 3	21	15	40	0.83	−0.65	0.20	0	6	15	8	7	nw.	C. L. Hall.
Beulah	Mercer	1,910	9																	F. W. Koester.
Bierman	Slope			55.8		92	3	29	28	40	3.01		2.38	0	5	17	4	9	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	42	56.8	−0.3	93	3	24	15	48	0.70	−0.49	0.18	0	8	15	9	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	53.8	−1.9	93[a]	3	17	15	51	1.13	−0.66	0.27	0	10	13	8	9	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	52.0		91	3	21	15	45	1.62		0.32	0	10	19	3	8		G. H. Phelps.
Bowman	Bowman		2	56.3		99[a]	3	28	†17	57	1.72		0.67	0	6	20	1	9	w.	L. S. Diehl.
Buford	Williams	1,944	37	55.4[a]	−0.4	92[a]	3	24[a]	28	46[a]	1.20	+0.22	0.66	0	4				nw.	P. Elmore.
Cando	Towner	1,488	15	56.5[f]	+1.1	95[f]	4	19[f]	16	57[g]	1.18	−0.32	0.50	0	5					E. T. Judd.
Carson	Morton		4			93	3				2.75		1.10	0	6	17	11	2	s.	J. W. Evens.
Colgate	Steele	1,177	2	57.2		95	3	25	29	50	2.60		0.91	T.	9	12	8	10	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6								1.00		0.40	0	5	22	7	1	nw.	S. Friswold.
Crosby	Divide	1,954	9																	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	55.0	−0.6	92	3	24	15	42	0.89	−0.50	0.27	T.	9	13	8	9	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	55.3	−1.3	97	3	22	15	46	0.73	−0.36	0.48	0	6	16	2	12	w.	J. C. Thysell.
Donnybrook	Ward	1,760	17	53.4	−1.4	95	3	17	15	54	1.41	−0.61	0.43	0	7	13	11	6	nw.	Geo. Michel.
Dunseith	Rolette	1,682	20	53.8	−1.0	90	3	17	15	49	1.39	−0.26	0.40	T.	10	7	19	4	nw.	J. G. Lamont.
Eckman	Bottineau		11	53.6[a]		95[a]	3	16[a]	15	52[a]	0.97		0.41	0	6	12	8	10	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	56.2	−1.4	89	3	26	15	48	0.69	−1.22	0.25	0	4					O. A. Thompson.
Energy††	McLean		4								0.90		0.27	0	9	11	14	5	w.	N. W. Solenberger.
Epping	Williams	2,224	8								1.89		1.04	0	7	17	6	7	e.	M. E. Uggen.
Fessenden	Wells	1,610	4	54.4		94	3	21	15	56	1.04		0.33	0	7	21	5	4	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	59.1	0.0	91	3	30	15	44	2.59	+0.77	1.10	0	10	10	13	7	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	55.4	−1.4	86	3	26	15	38	3.00	+0.71	1.77	0	7	15	11	4	nw.	F. O. Alin.
Garrison	McLean	1,901	21	54.6	−2.3	95	3	19	15	50	0.96	−0.39	0.83	T.	3	16	11	3	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	54.8		97	3	25	15	45	0.70		0.26	0	3	17	6	7	nw.	C. H. Layman.
Grafton	Walsh	827	24	54.8	−1.1	91	3	22	17	46	1.26	−0.65	0.40	0	8	19	2	9	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	56.0		89	3	26	15	48	3.35		2.30	0	5	16	4	10	nw.	G. H. Leick.
Granville	McHenry	1,504	9	54.4[f]		93[f]	3	20[f]	15	45[f]	0.86		0.39	0	5					W. A. Christianson.
Hannah	Cavalier	1,568	11	52.4		83	† 3	20	15	49	0.28		0.13	T.	4	10	13	7	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	53.0		91	3	20	15	52	1.80		0.65	0	5	15	9	6	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	8																	A. J. Ogaard.
Hillsboro	Traill	901	10	56.4		87	3	28	29	38	3.97		3.00	0	8	13	12	5	nw.	F. E. Mayall.
Howard	Williams	2,275	7	52.5		82	9	22	22	46	2.08		1.90	0	3	12	10	8	nw.	C. P. Amsbangh.
Jamestown	Stutsman	1,390	24	55.2	−1.5	90	3	25	15	49	1.37	−0.17	0.28	0	8	12	8	10	nw.	S. Calvelage.
Lakota	Nelson	1,579	15	53.8[d]	−1.2	90[h]	3	24	15	54	0.96	−0.11	0.30	T.	5	5	19	6	sw.	C. R. Pettes.
Lamoine	Kidder	1,936	8	55.4		91	3	17	15	56	0.66		0.37	0	2	16	10	4	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	20	53.1		89	3	23	15	49	1.75		0.51	0	10	19	4	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	53.2	−1.7	90	3	28	29	49	1.85	+0.20	0.60	0	8	19	3	8	sw.	G. G. Graham.
Lisbon	Ransom	1,091	12	55.6	−2.0	90[a]	3	27	†15	55[a]	3.69	+1.61	2.36	0	9	18	6	6	nw.	W. S. Adams.
McHenry	Foster	1,509	6	54.8		91	3	24	15	50	1.44		0.84	0	4	24	2	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22	56.4	+2.7	93	3	18	15	52	1.15	−0.47	0.35	0	5	4	19	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	4	58.2		88	3	30	15	43	4.36		2.09	0	12	16	4	10	se.	E. W. Griggs.
Maddock	Benson		1	55.5		93	3	20	†15	52	0.77		0.23	0	7	14	7	9	nw.	F. P. Cowing.
Mandan	Morton	1,644	2	56.2		94	3	23	15	46	0.92		0.36	0	7					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	55.0	−0.6	94	3	22	15	45	1.12	−0.31	0.29	0	8	18	7	5	sw.	P. B. Anderson.
Manning	Dunn	2,450	1								0.03		0.03	0	1					A. J. Bretzlaff.
Marmarth	Slope		7	54.4		94	3	24	22	52	0.58		0.21	0	6	17	7	6	w.	S. P. Crane.
Marstonmoor	Stutsman	1,945	7	52.2[a]		91[b]	3	19[c]	15	52[c]	1.69		0.45	T.	7	9	15	6	sw.	H. H. McCumber.
Mayville	Traill	975	20	57.1	+0.6	90	3	29	†15	40	4.31	+1.75	1.64	0	10	20	3	7		W. C. Gould.
Melville	Foster	1,590	18	55.6[d]	−0.6	90[d]	3	22[d]	†15	48[d]	1.35	+0.01	0.82	0	3				nw.	J. P. Kidder.
Milnor	Sargent	1,097	4								5.26		1.64	0	8	13	7	10	nw.	Hj. Edman.
Minot	Ward	1,557	20	56.9	−0.1	98	3	15	15	60	0.87	−0.79	0.30	0	8	7	18	5	sw.	W. I. Faris.
Minto	Walsh	820	23	56.4	0.0	92	3	25	17	44	1.34	−0.77	0.68	0	7	14	5	11	n.	C. M. Evans.
Mott	Hettinger	2,424	9	55.4		95	3	21	15	51	1.29		1.00	0	3	14	9	7	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	55.6	−1.3	90	3	20	15	49	1.07	−0.23	0.60	0	8	16	6	8	sw.	C. J. Hoof.
New England	Hettinger	2,400	22	54.8	−1.1	84	† 8	24	15	54	1.68	+0.49	1.43	0	2					J. M. Connolly.
New Salem	Morton	2,163	11	54.8	−3.0	95	3	23	15	55	0.78	−0.73	0.24	0	8	18	5	7	nw.	J. Christiansen.
Orange††	Adams	2,586	7	55.8		94	3	21	15	48	0.45		0.35	0	2	20	5	5	nw.	J. E. Goforth.
Oriska	Barnes	1,270	11	56.1	−2.4	89	3	27	15	45	2.89	+1.35	1.72	0	9	15	8	7	n.	J. J. Taylor.
Park River	Walsh	998	12	55.4[e]	−2.2	84[e]	19	28[e]	†15	47[e]	0.99	−0.70	0.25	0	7				nw.	F. A. McCray.
Parshall	Mountrail		1								1.00		0.62	0	2					J. A. Johnson.
Pembina	Pembina	789	42	52.8	−0.8	93	3	26	†15	51	1.22	−0.63	0.76	0	5	11	12	7	sw.	C. W. Shumaker.
Power	Richland	1,020	24	59.4[a]	+1.1	95	6	30	12	55	5.64	+3.75	4.52	0	7					J. H. Radcliffe.
Powers Lake	Burke	2,205	1								1.32		0.40	0	7	10	12	8	sw.	C. Frank.
Steele	Kidder	1,857	19	55.6	−1.8	90	3	26	†15	38	0.54	−0.66	0.32	T.	4	16	12	2	nw.	H. S. Wood.
Taylor	Stark	2,493		55.0		94	3	25	15	41	3.25		2.90	0	4	7	19	4	w.	H. Leutz.
Towner	McHenry	1,482	14	56.1	+1.6	93	3	20	15	48	1.46	−0.58	0.72	0	3	9	14	7	nw.	B. Bagley.
Turtle Lake	McLean	1,899	4	57.2		93	4	20	15	48	0.35		0.35	0	1	16	12	2	nw.	E. J. Jones.
University	Grand Forks	830	24	54.8	−1.2	89	3	28	17	41	1.19	−0.81	0.40	0	9	11	12	8	se.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	56.2	−2.5	88	3	27	29	48	3.03	+0.95	0.70	0	13	18	2	10	nw.	F. E. Smith.
Walhalla	Pembina	966	9	56.2		91	3	23	17	46	1.13		0.34	0	8	11	8	11	w.	Ivan Lee.
Washburn	McLean	1,734	18																	A. Wacker.
Westhope	Bottineau	1,508	10	52.5		94	3	18	15	50	0.93		0.26	0	8	6	21	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	54.2	−5.3	90	3	28	22	40	1.26	+0.35	0.76	0	7	12	11	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	53.4	−1.0	93	3	16	15	53	1.15	−0.61	0.37	0	7	10	13	7	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	55.4		97	3	19	15	58	0.63		0.15	0	8	10	9	11	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	56.4	−0.2	90	3	29	29	38	2.17	−0.13	1.16	0	9	14	9	7	nw.	U. S. Weather Bureau.
Averages				55.1	−1.3	99	3	15	15	60	1.62	0.00	4.52	T.	6	14	9	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for September, 1916.

Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri						.08				.58			.12												.25		.15					1.18
Amenia ‖ ‖	Red	T.						.22	T.		1.49			T.	.18		.01					T.	.01			T.		.17	.46				2.54
Ashley	Missouri						.60							.04													T.	.18					0.82
Beach	Lit. Missouri						.55			T.	.55			.33											.05			.22	.05				1.75
Berthold Agency	Missouri			T.			.08							.17		.04	.20				T.					.16	T.	.18					0.83
Beulah	Missouri																																
Biermun	Lit. Missouri						2.38				.14														.15			.30	.04				3.01
Bismarck ***	Missouri	T.	T.	.18			.17							T.		T.	.03			.01					.13	.01	.09	.08					0.70
Bottineau ‖ ‖	Mouse	.09			T.			.02			.10				.19	T.	.07				.06					.26	.03	.27	.04				1.13
Bowbells ‖ ‖	Mouse	.32					.08	.10			.07			.24	.08		.16									.14	.08	.32	.11				1.62
Bowman	Grand						.08	.67		.60	.09																.08	.20					1.72
Buford	Missouri	T.		T.			.20				.66															.32	T.	.02					1.20
Candо	Sheyenne	.13												.35														.50	.05				1.18
Carson	Heart			.20	.10		1.10	.30			1.00																T.	.05					2.75
Colgate	Sheyenne	.02					.04	.09	.07	.91	.50		T.	.34	T.		T.				T.	.04	T.			T.		.59					2.60
Cooperstown	Sheyenne						.20			.20	.10			.10														.40					1.00
Crosby	Mouse																																
Devils Lake ***	Sheyenne	.01					.01	.03		.05				.20	T.	.07					.03	T.				.22		.27					0.89
Dickinson ‖ ‖	Heart				T.		.03	.48	T.	T.	.02		T.	T.	.02	T.										.12		T.	.06				0.73
Donnybrook	Mouse	.32			.08		.05			T.	T.			.21		T.	.20				T.					.12		.43					1.41
Dunseith	Mouse	.14		.03								.17		.15	T.		.01				.06				.01	.40	.02	.40					1.39
Eckman	Mouse	.15			T.						T.	.01		.17		T.	.09									.41		.14					0.97
Edgeley	James							.18			.22																	.25	.04				0.69
Energy	Missouri		.01				.04	.04			.03			.07	T.		.27									.09	.13	.22					0.59
Epping	Missouri						.08				1.04						.12									.06	.09	.35	.15				1.89
Fessenden ‖ ‖	James				T.			.15	.33						.14		.22				.03					.06		.11	T.				1.04
Forman	Sheyenne	.38				.05	.20	.02		1.10			.48	.07	.07		.07										T.	.15					2.59
Fullerton	James	.15					.34		1.77			.28	T.	.06	.08												T.	.32					3.00
Garrison	Missouri						T.	.08						.05	T.													.83					0.96
Goodall	Missouri																.26									.25		.19					0.70
Grafton ‖ ‖	Red	.05							.08		.40				.24								.26			.05		.10	.08				1.26
Grand Rapids	James	.20					.20			2.30			T.	T.	.30	T.	T.					T.						.35					3.35
Granville	Mouse	.10		T.										.24							.05					.39		.08					0.86
Hannah	Pembina		T.					T.						.03	T.						.02		T.			.13	.10						0.28
Hansboro	Red													.28					.32		.15				.40		.65					1.80
Hettinger	Grand																																
Hillsboro	Red	.03					.02	.08		T.	3.00			.31			.05				T.	.07						.41					3.97
Howard	Missouri					T.	T.				1.90	T.		.02		T.	T.				T.							.16			.35		2.08
Jamestown ‖ ‖	James	.20						.28			.04		.02		.30		.27											.16	.10				1.37
Lakota	Sheyenne		T.						.21	T.				.30	T.	T.	T.				.10	T.				.10		.25					0.96
Lamoine	Missouri				T.			.29																		T.		.37					0.66
Langdon ‖	Pembina	.15							.19		.08	T.			.36	.04							.08	.02	T.	.51		.27	.05				1.75
Larimore ‖	Red	.04						.13			.57				.16								.14	.11		.10			.60				1.85
Lisbon ‖ ‖	Sheyenne	.28					.16		T.		2.36		T.	.10	.16		.11					T.	.16	T.				.24	.12	T.			3.69
McHenry	James			T.				.25		.15				.20												T.		.84					1.44
McKinney	Mouse			.15		.20					.27	T.	T.				.18				T.					T.				.35			1.15
McLeod	Sheyenne	.14				.25	.18		T.	.05	2.09		.64	.03							T.	.18	.08				.05	.58	.09				4.36
Maddock	Sheyenne	.23						.09						.12			.05				.04					.02		.22					0.77
Mandan ‖ ‖	Missouri				.36		.11	.11		T.	T.				T.		.05									.08		.08	.12				0.92
Manfred	Sheyenne				.02			.18						.15	.02	T.	.18				.03					.29		.25					1.12
Manning	Knife																											.03					0.03
Marmarth	Lit. Missouri		T.	T.			.21			T.	.09			T.											.01	.05	T.	.15	.07				0.58
Marstonmoor	James	.12			T.		.30	.40		T.			.26	T.		.10		T.	.06	T.						T.		.45					1.69
Mayville	Red							.30		.32	1.23			1.64			.02				.02	.02	.08					.61	.07				4.31
Melville	James				T.		.82			.03				T.			T.				T.							.50					1.35
Milnor	Red	.65				1.64	.17			.62	1.08		.45		T.							T.		.20			T.	.45					5.26
Minot ‖ ‖	Mouse	.10			.02										.02		.30				.02					.25		.00	.10				0.87
Minto	Red	.02						.06		T.	.68			.13							.15	.10						.28					1.34
Mott	Cannon Ball			T.			1.00							T.												.18		.11					1.29
Napoleon ‖ ‖	Missouri	.03						.60			.07				.10		.04				.02							.09	.12				1.07
New England	Cannon Ball						1.43																			.25							1.68
New Salem	Heart	T.					.11	.05			.09			T.		.01	.10									.24	.01	.17					0.78
Orange	Cannon Ball						.35																					.10					0.45
Oriska	Sheyenne	T.					.14	.08		1.72			T.	.23	.02	T.	.18				.02	.01	T.				T.	.43					2.89
Park River	Red	.14					T.	T.		.06	.15			.18							T.	T.	.15		.06			.23					0.99
Parshall	Missouri												.62																.38				1.00
Pembina ‖ ‖	Red	T.									.76				.20							.10	.04			.12							1.22
Power	Sheyenne	.04					.48			*	4.52			.04	.24														.32				5.64
Powers Lake	Missouri						.17				.40	.05	T.	.10												.18	.37	.07					1.32
Steel	Missouri			T.			.32	T.		T.	T.			T.	.04		T.						T.			.11	.07						0.54
Taylor	Heart						2.90	.01																	.22		.12						3.25
Towner	Mouse						T.							.72												.50		.24					1.46
Turtle Lake	Missouri																									.35							0.35
University	Red	.02					.03	.12		.10				.15	T.						.14	.14	.01			T.		.18					1.19
Wahpeton ‖ ‖	Red	.20				T.	.25	.37	T.	.12	.36	.05	.05	.21	.16	T.	.22						.12					.22	.70				3.03
Walhalla	Pembina	.03									.17		T.	.34							.17	.07	.03			.26		.06					1.13
Washburn	Missouri																																
Westhope	Mouse	.06					.14				.01			T.		T.	.20				.04					.26	.05	.17					0.93
Williston ***	Missouri			T.			.09	.01		T.	.76			T.			.02								.20	T.	.06	.12	T.				1.26
Willow City	Mouse	.23					T.							.09		T.	.08				.06					.37	.02	.30					1.15
Zap	Knife			.08			.02	.10								.04	.10				.02					.15		.12					0.63
Moorhead, Minn ***	Red	.05					.18	.03		.06	.20										.01	.09	.01					.64					2.17

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	68	78	93	80	77	74	77	84	75	64	70	70	65	52	62	52	69	82	82	68	63	70	71	76	70	60	52	54	67	76	....	70.0
	Minimum	43	45	50	39	46	51	45	44	49	37	43	44	42	25	24	37	24	41	42	41	36	20	31	29	46	37	38	22	28	38	....	37.9
Amenia §§	Maximum	68	74	89	88	87	67	79	78	73	74	76	63	71	51	55	57	63	72	84	68	55	49	67	73	78	61	48	55	63	70	....	68.5
	Minimum	44	37	41	60	52	52	53	47	50	61	48	57	46	39	29	30	35	32	35	44	44	44	32	34	48	41	37	31	26	31	....	42.0
Ashley	Maximum	68	72	88	85	81	..	..	75	79	69	71	73	77	50	53	53	60	77	69	59	58	72	75	75	..	75	55	50	62	75	....	°68.7
	Minimum	45	41	60	58	..	..	52	55	58	53	41	50	46	35	24	40	28	35	42	42	40	40	38	42	..	42	33	27	31	35	....	°42.0
Beach	Maximum	70	87	97	83	81	67	76	84	70	70	70	75	70	53	63	53	72	83	82	66	63	70	77	67	74	65	56	55	67	80	....	71.5
	Minimum	45	51	41	50	39	53	45	53	50	43	39	37	41	30	26	35	27	38	42	44	37	21	32	39	42	40	37	26	33	34	....	39.0
Berthold Agency	Maximum	59	67	79	79	63	63	64	72	71	62	60	59	58	45	46	47	52	68	73	73	61	53	63	64	64	59	54	49	59	62	....	61.6
	Minimum	41	41	55	42	40	44	45	50	45	48	40	34	40	31	21	40	27	37	33	41	41	30	31	29	46	41	39	24	31	34	....	38.0
Bismarck	Maximum	66	74	93	85	82	65	76	78	80	68	76	81	59	50	49	54	64	82	86	68	59	61	75	75	76	64	49	53	67	84	....	70.0
	Minimum	48	45	67	53	47	53	56	53	58	52	45	47	42	30	24	32	32	39	38	51	44	40	38	39	46	47	38	29	35	39	....	43.6
Bottineau §§	Maximum	69	72	93	82	74	67	82	81	76	65	75	80	67	42	51	57	61	82	86	68	57	59	74	67	72	59	49	52	64	....	....	°68.4
	Minimum	42	43	45	52	45	45	50	50	51	56	41	39	40	36	17	26	26	31	38	42	40	40	33	40	42	46	39	24	25	28	....	39.1
Bowbells §§	Maximum	65	71	91	80	72	66	78	82	67	58	71	74	57	41	51	60	65	79	83	72	61	65	63	65	70	59	49	52	65	54	....	66.2
	Minimum	40	42	46	45	46	41	44	44	48	52	42	43	41	34	21	26	28	44	44	42	36	32	33	35	31	41	38	24	23	32	....	37.9
Carson	Maximum	66	78	93	82	80	61	72	80	78	65	70	75	65	50	62	52	64	70	85	67	60	60	74	75	75	70	50	52	66	69	....	68.9
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Colgate	Maximum	78	88	95	93	86	75	81	85	79	80	78	72	78	55	48	59	55	76	90	70	63	53	70	68	84	63	48	58	66	78	....	72.1
	Minimum	43	33	55	60	60	45	53	45	60	55	47	45	46	36	28	36	36	31	43	48	44	45	29	35	45	40	35	28	25	28	....	42.0
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	64	66	92	82	77	72	76	79	74	70	74	78	58	44	49	52	57	79	84	65	50	49	74	72	74	59	45	49	63	81	....	66.9
	Minimum	44	40	53	56	51	46	54	55	60	54	52	50	43	29	24	34	34	38	44	48	42	40	35	40	50	42	32	26	34	39	....	43.0
Dickinson	Maximum	66	83	97	83	80	67	74	82	72	59	72	75	65	52	64	54	66	82	83	68	63	69	78	77	72	64	50	52	67	80	....	70.5
	Minimum	46	48	62	41	43	54	43	52	51	49	41	35	36	29	22	40	28	36	37	45	38	25	36	32	43	46	42	26	32	45	....	40.1
Donnybrook	Maximum	63	68	95	81	74	67	77	83	73	67	73	75	66	44	52	52	63	81	85	76	60	58	70	62	73	61	53	52	66	77	....	68.2
	Minimum	38	41	41	45	47	45	44	50	43	47	43	44	42	33	17	34	28	41	43	43	38	35	31	31	41	42	37	24	30	38	....	38.5
Dunseith	Maximum	63	64	90	84	75	65	75	78	75	74	73	80	76	51	51	52	58	80	84	79	61	55	50	66	71	70	53	50	63	78	....	68.1
	Minimum	40	38	41	54	46	46	50	49	56	46	45	41	41	34	17	28	26	32	42	45	41	42	31	40	48	45	37	22	25	36	....	39.5
Edgeley	Maximum	65	68	89	84	81	75	74	78	84	70	73	72	72	60	53	53	60	79	84	70	61	56	73	76	78	66	56	51	62	78	....	70.0
	Minimum	44	37	53	59	53	49	56	45	58	55	47	48	44	38	26	36	29	33	43	52	43	45	30	30	49	44	38	28	28	30	....	42.3
Fessenden §§	Maximum	69	70	94	85	82	72	76	78	74	68	77	81	58	50	56	55	62	81	88	67	55	58	78	72	77	65	47	51	66	83	....	69.8
	Minimum	43	32	38	56	45	46	50	46	50	58	46	43	44	37	21	25	24	35	38	43	40	42	27	34	41	45	41	24	24	32	....	39.0
Forman	Maximum	72	69	91	89	87	80	77	73	74	72	74	68	74	56	51	54	62	77	83	76	62	50	76	79	76	71	54	53	68	80	....	70.9
	Minimum	46	45	57	65	64	60	57	53	60	61	49	53	49	42	30	43	34	37	49	50	45	45	36	46	45	56	47	42	33	31	....	47.3
Fullerton	Maximum	65	68	86	81	79	67	72	77	83	70	71	68	72	50	52	51	58	73	78	66	57	53	69	72	76	57	56	49	59	75	....	67.0
	Minimum	44	39	59	60	58	55	57	47	59	57	48	49	45	39	26	39	31	36	42	50	44	38	31	40	49	42	39	29	30	31	....	43.8
Garrison	Maximum	69	72	95	84	79	74	78	80	74	67	76	71	66	49	56	55	65	70	85	68	60	60	79	71	76	64	57	52	66	74	....	69.7
	Minimum	43	42	43	46	45	45	53	49	48	50	42	43	41	33	19	37	25	39	35	45	39	34	31	33	48	45	37	24	32	35	....	39.4
Grafton §§	Maximum	67	67	91	83	80	73	79	80	77	76	76	78	71	50	50	56	60	74	85	65	54	53	73	73	75	58	48	53	65	73	....	68.8
	Minimum	44	32	45	45	48	42	50	46	59	63	50	46	45	37	28	32	22	32	39	48	46	43	29	34	45	46	36	29	26	34	....	40.7
Granville	Maximum	74	82	93	84	..	..	..	..	66	63	70	75	60	47	55	62	65	77	89	65	..	..	72	65	74	65	57	57	73	75	....	f69.4
	Minimum	42	42	48	42	..	..	..	..	48	52	45	42	42	35	20	38	40	38	48	42	..	..	30	35	48	42	35	26	30	34	....	f39.3
Hannah	Maximum	60	71	83	82	72	68	70	73	81	70	75	80	73	54	60	52	60	83	76	60	54	62	67	72	70	61	53	51	56	70	....	67.3
	Minimum	32	38	41	45	43	40	45	46	49	48	38	45	40	30	20	24	28	34	47	44	42	43	31	37	41	38	33	22	24	34	....	37.4
Hansboro	Maximum	65	68	91	82	72	68	75	80	72	72	77	80	55	48	52	53	60	82	86	75	58	54	74	74	60	57	50	55	64	78	....	67.9
	Minimum	38	31	46	56	44	40	46	48	53	51	47	44	40	34	20	23	28	30	50	44	42	41	29	40	32	35	24	26	28	32	....	38.1
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Howard	Maximum	78	73	77	76	77	72	78	80	82	60	68	72	60	55	60	65	65	78	83	68	68	64	66	68	65	55	50	51	65	72	....	68.4
	Minimum	36	42	35	39	41	41	42	45	46	40	41	45	42	28	27	39	30	38	44	36	34	22	32	32	45	36	38	24	32	36	....	36.6
Jamestown §§	Maximum	64	67	90	82	80	70	72	76	71	69	75	76	68	49	50	52	58	81	85	67	53	54	75	75	78	62	57	50	64	77	....	68.2
	Minimum	46	39	59	53	53	50	55	48	53	66	48	46	43	38	25	28	30	33	42	45	42	42	29	40	40	47	41	26	27	28	....	42.1
Lakota	Maximum	65	65	90	80	78	71	72	78	71	65	73	76	65	47	61	64	58	78	83	65	55	52	..	..	..	..	..	..	..	..	..	b68.9
	Minimum	42	35	36	60	45	42	40	45	45	54	46	46	41	35	24	34	28	32	55	45	43	42	28	40	42	40	36	26	25	32	....	38.8
Lamoine	Maximum	74	66	91	81	79	68	74	77	71	60	74	78	61	56	58	59	60	80	85	74	57	57	77	77	76	63	50	84	82	82	....	70.9
	Minimum	44	39	53	53	43	48	52	47	51	51	41	43	40	34	17	31	24	34	39	47	40	43	32	36	43	42	35	28	33	37	....	40.0
Langdon	Maximum	64	66	89	76	75	67	76	80	72	75	75	83	64	46	49	46	56	78	87	66	48	48	78	71	71	55	44	49	64	77	....	66.5
	Minimum	42	37	44	56	46	45	50	48	47	57	50	43	41	36	23	24	26	33	38	41	45	42	33	36	43	45	40	25	26	30	....	39.7
Larimore §§	Maximum	62	68	90	88	79	70	69	77	70	68	72	73	68	49	50	54	59	69	85	65	55	50	69	69	75	58	44	49	61	68	....	66.1
	Minimum	44	38	42	41	50	49	50	49	51	50	48	49	46	38	29	28	31	31	36	46	43	44	32	33	40	49	37	29	28	31	....	40.4
Lisbon §§	Maximum	75	75	90	88	85	72	72	86	68	72	72	76	70	52	53	75	82	76	83	68	56	56	74	86	78	68	60	52	62	....	....	a71.8
	Minimum	45	38	44	53	54	48	40	45	47	45	40	40	47	39	27	33	28	30	47	47	44	38	29	31	40	43	40	28	27	29	....	39.5
McHenry	Maximum	65	67	91	80	77	72	74	79	74	70	73	77	62	48	51	52	78	78	83	65	56	50	74	80	74	65	48	49	62	79	....	68.4
	Minimum	45	42	54	56	46	41	45	50	49	52	47	47	43	37	24	34	28	30	42	45	42	40	34	40	48	44	40	27	29	36	....	41.2
McKinney	Maximum	65	70	93	85	76	72	80	65	77	80	70	77	70	44	52	55	64	85	88	76	60	58	73	70	76	80	85	54	64	60	....	75.3
	Minimum	40	40	45	45	43	42	45	44	45	44	40	43	40	35	18	35	35	40	38	36	38	34	25	35	38	32	33	25	40	32	....	37.5
Maddock	Maximum	66	66	93	86	82	76	77	79	76	72	76	79	78	52	57	54	59	81	85	82	65	57	77	76	75	74	60	50	64	81	....	71.8
	Minimum	44	37	52	56	42	43	54	45	57	54	48	38	45	37	20	32	20	30	36	43	34	43	25	35	46	46	38	24	22	31	....	39.2
Marmarth	Maximum	70	89	94	79	79	68	74	90	70	60	67	73	58	58	63	55	71	80	79	..	62	70	75	77	70	63	47	50	65	80	....	a70.2
	Minimum	45	52	58	40	41	49	38	38	50	42	47	34	40	29	30	37	28	39	40	..	36	24	30	35	42	42	36	32	32	32	....	a38.6
Minot §§	Maximum	67	67	98	86	79	75	81	83	88	70	76	82	60	44	53	55	67	85	88	87	60	57	79	65	79	65	48	56	69	92	....	72.0
	Minimum	43	41	49	50	50	50	51	47	50	51	45	44	47	35	15	35	38	45	38	45	39	42	41	40	45	47	45	27	26	32	....	41.8
Mott	Maximum	67	72	95	83	80	72	79	82	80	66	73	75	63	54	67	70	77	81	83	67	70	71	76	77	71	64	55	67	68	83	....	72.9
	Minimum	42	46	53	44	39	44	45	49	50	45	41	36	44	27	21	36	32	30	36	38	33	27	36	34	38	41	37	24	33	36	....	37.9
Napoleon §§	Maximum	65	75	90	86	81	63	75	78	76	66	72	78	70	50	53	54	63	80	87	68	60	60	76	80	77	65	53	53	58	83	....	69.8
	Minimum	44	40	45	55	48	47	53	48	53	58	41	41	45	35	20	40	35	35	40	47	40	38	34	35	45	44	40	25	40	34	....	41.5
New England	Maximum	..	..	..	..	..	68	82	84	84	81	71	71	71	57	65	62	82	82	82	76	68	73	82	80	68	66	64	58	62	59	....	°71.9
	Minimum	..	..	..	..	..	56	44	52	52	48	43	37	44	29	24	40	28	30	38	40	37	26	28	38	36	38	30	25	42	40	....	°37.8
New Salem	Maximum	73	85	95	83	81	83	74	78	75	63	74	78	68	65	63	60	68	83	85	71	61	63	77	75	75	65	50	59	67	83	....	70.0
	Minimum	44	42	40	41	45	47	46	45	50	48	49	42	44	30	23	28	30	43	47	48	36	32	38	43	45	41	35	25	32	32	....	39.7
Orange	Maximum	68	81	94	83	83	69	73	85	82	60	71	77	66	54	65	53	67	82	87	68	65	68	77	78	77	62	49	53	67	85	....	71.6
	Minimum	50	49	63	42	41	55	52	54	45	45	41	43	43	31	21	34	30	41	46	43	36	27	39	33	42	38	37	27	28	37	....	40.1
Oriska	Maximum	65	72	89	86	85	67	77	76	71	72	75	70	69	50	51	54	60	74	79	65	54	50	68	77	79	76	62	52	61	76	....	68.7
	Minimum	43	35	68	60	56	48	54	48	55	57	48	48	49	38	27	37	33	35	48	45	39	43	31	47	43	43	39	30	28	31	....	43.5
Park River	Maximum	65	66	..	82	78	75	77	81	77	..	77	77	75	54	50	54	58	79	84	79	63	50	74	..	74	71	53	52	64	75	....	°69.0
	Minimum	44	35	..	35	52	57	54	54	57	..	54	51	46	38	28	28	31	35	46	50	45	44	34	..	34	48	38	29	29	31	....	°41.7
Pembina §§	Maximum	71	71	92	81	79	81	81	86	81	72	71	74	57	44	44	58	61	74	84	56	45	52	61	71	72	66	46	42	68	52	....	66.4
	Minimum	41	28	41	58	49	44	44	36	44	58	51	42	41	36	26	26	28	31	36	56	38	33	34	41	43	44	36	26	26	39	....	39.3
Power	Maximum	88	87	88	91	92	95	82	..	70	72	76	68	68	70	68	74	76	72	78	76	76	75	80	82	72	70	72	68	62	76	....	a76.7
	Minimum	39	32	38	61	59	50	54	..	40	42	47	30	32	36	32	40	42	46	46	43	41	48	47	50	40	41	38	37	38	....	....	a42.2
Towner	Maximum	65	68	93	90	82	75	77	81	76	75	75	81	78	56	52	54	61	81	85	70	64	56	78	73	73	70	46	56	65	80	....	71.2
	Minimum	40	44	50	56	48	44	54	48	58	53	46	38	46	39	20	34	24	35	37	41	39	44	34	35	50	41	40	24	31	36	....	41.0
Turtle Lake	Maximum	76	80	78	92	75	78	63	76	80	78	78	75	63	45	50	53	62	80	86	70	58	70	76	73	75	70	60	50	65	80	....	70.5
	Minimum	54	48	56	65	48	65	45	50	48	56	65	48	46	34	20	37	29	38	38	47	42	39	40	45	50	40	35	25	33	40	....	43.9
University	Maximum	64	66	89	83	79	69	75	77	76	75	74	68	71	49	49	53	57	72	83	64	53	55	66	69	77	58	48	51	62	69	....	66.7
	Minimum	46	34	55	59	54	50	55	48	62	51	49	49	45	36	29	34	28	35	42	48	46	37	31	41	51	38	38	30	29	36	....	42.9
Wahpeton §§	Maximum	67	81	88	87	85	67	75	77	74	75	74	60	80	48	50	53	60	68	82	68	55	55	68	80	78	63	55	51	62	71	....	68.6
	Minimum	47	40	52	54	63	56	50	51	58	60	45	53	47	40	29	38	32	35	35	47	45	42	35	42	49	45	32	31	27	34	....	43.8
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	65	71	94	64	79	68	71	82	76	63	65	78	54	53	51	55	65	83	85	65	56	64	66	65	63	59	52	66	65	....	....	66.6
	Minimum	43	44	46	44	50	46	47	46	56	45	43	53	44	34	18	32	25	34	35	34	38	34	36	34	36	40	34	27	30	....	....	38.4
Williston	Maximum	66	75	90	78	75	66	76	82	71	56	69	74	54	50	61	50	65	80	80	66	60	66	68	71	69	58	47	53	66	74	....	67.2
	Minimum	42	46	56	43	49	48	48	56	52	45	47	47	36	42	31	40	31	42	42	46	38	28	33	31	49	41	37	28	35	39	....	41.3
Willow City	Maximum	62	67	93	80	73	65	76	81	76	65	74	79	55	46	51	52	60	80	86	66	54	55	75	69	73	59	47	51	64	78	....	67.1
	Minimum	43	40	44	54	47	42	52	45	58	51	45	38	46	36	16	34	26	32	33	44	41	44	29	31	52	46	39	24	25	32	....	39.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a, 1 day missing. b, 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

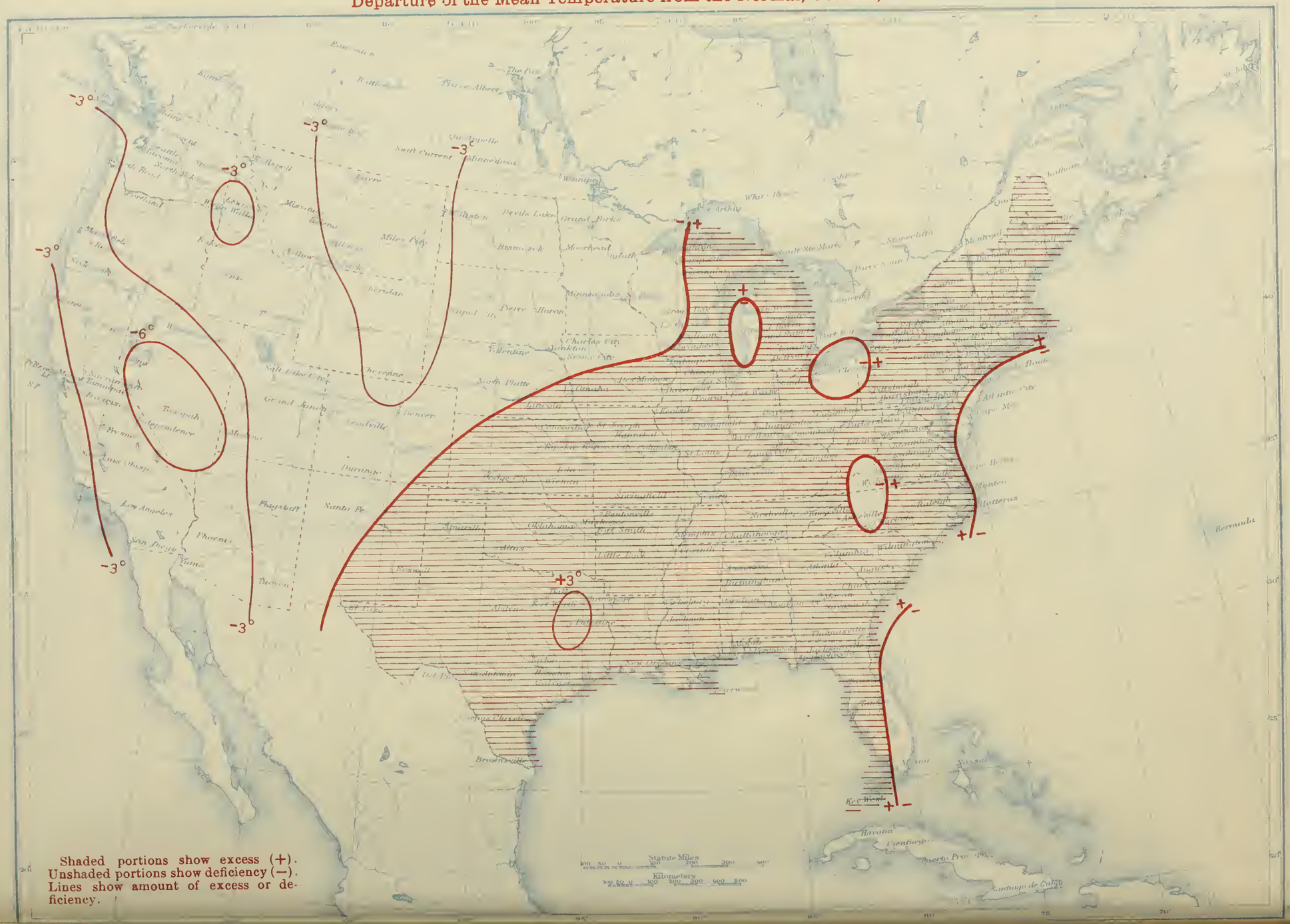
NORTH DAKOTA SECTION

OCTOBER, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 29, 1916.

Departure of the Mean Temperature from the Normal, October, 1916.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXVI. Bismarck, N. D., October, 1916. No. 10.

GENERAL SUMMARY.

The weather during October was unusually cold and dry, being favorable for threshing and corn harvesting, but too dry for all plowing. During the climatological history of North Dakota, covering the period 1892-1916, there were but two colder Octobers, 1898 with a mean of 38.8°, and 1913 with 39.3. The lowest temperature for the month (-2°) was exceeded but twice; 1895 with a minimum of -12°, and 1911 with -10°. During the above mentioned period there were but six Octobers with a lower average monthly precipitation, the lowest being 0.25 inch in 1895.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from four recording stations, was 30.05 inches. The highest was 30.72 inches at Bismarck, Burleigh County, on the 9th; the lowest was 29.44 inches at Moorhead on the 16th.

TEMPERATURE.

The mean temperature for the State was 40.0°, or 3.8° below the normal, and 6.6° lower than the mean for October, 1915. The highest mean reported was 45.5° at Steele, Kidder County; the lowest was 35.0° at Dunseith, Rolette County. The highest temperature reported was 85° at Carson, Morton County, on the 1st; the lowest was -2° at Cando, Towner County, Hannah and Langdon, Cavalier County, on the 20th. The greatest daily range of temperature was 57° at Carson on the 1st. The greatest monthly range was 85° at Cando, Towner County; the least was 45° at Lisbon, Ransom County. The distribution of temperature was quite uniform.

HUMIDITY.

The average relative humidity, as determined from the reports of four stations, was 74 per cent, the average at 7 a. m. being 84 per cent, and at 7 p. m. 64 per cent.

PRECIPITATION.

The average precipitation for the State was 0.69 inch, or 0.35 inch below the normal, and 0.35 inch less than the average for October, 1915. The greatest monthly amount reported was 2.06 inches at Pembina, Pembina County; the least was a trace at Lisbon, Ransom County. The greatest amount recorded in any twenty-four consecutive hours was 1.10 inches at Willow City, Bottineau County, on the 3d. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall for the State was 2.0 inches. The distribution of precipitation was uneven both geographically and throughout the month. Particularly stormy perriods were the first three days of the month, 7th-8th, the 16th to 18th, inclusive, and from the 22d to the 28th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.4 miles. The greatest wind movement was 8,293 miles at Devils Lake, an average of 11.1 miles per hour; the least was 6,053 miles at Williston, an average of 8.1 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 42 miles per hour from the northwest at Bismarck on the 16th, and at Devils Lake on the 2d.

SUNSHINE AND CLOUDINESS.

There was a slight deficiency in sunshine; the average number of clear days was 12, partly cloudy days 8, and cloudy days 11.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.46	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.01	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.62	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.79	2	16	8	7	nw.
1896...	40 2	−3.6	88	5	0.78	−0.26	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.27	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.21	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.14	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.50	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.57	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.24	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.10	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	−0.01	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.57	−0.47	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.47	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.34	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.54	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.40	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.50	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.28	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.10	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.59	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.06	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	0.00	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.35	4	12	8	11	nw.

Climatological Data for October, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	
Alexander	McKenzie		1	40.0		71	13	12	20	44	0.74		0.49		4	9	15	7	w.	M. B. Johnson.
Amenia	Cass	954	20	40.5	−4.5	74	14	15	20	39	0.01	−1.39	0.01	0	1	16	9	6	n.	E. T. Carley.
Ashley	McIntosh	2,001	19	41.9[a]	−1.8	75[a]	6	10[a]	20	52[a]	0.31	−0.63	0.31	T.	1				nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	41.2		72	†11	14	19	44	0.64		0.43	0	3	14	3	14	nw.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	22	38.8	−6.8	63	1	13	20	35	1.33	+0.41	0.87	T.	6	11	10	10	nw.	C. L. Hall.
Beulah	Mercer	1,910	9																	F. W. Koester.
Bierman	Slope			43.0[d]		70[d]	27	12	19	39[d]	1.13		0.55	3.5	3	8	6	17	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	42	41.8	−2.3	75	6	13	20	44	0.18	−0.85	0.11	0.2	5	12	7	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	36.6	−5.9	69	13	9	20	43	1.08	0.00	0.70	1.0	9	10	7	14	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	38.4		70	13	12	20	39	1.16		0.66		4	14	1	16		G. H. Phelps.
Bowman	Bowman		2	41.7		73	17	15	19	48	0.65		0.50	1.0	4	16	1	14		L. S. Diehl.
Buford	Williams	1,944	37	41.8[d]	−1.6	74[d]	13	15[d]	20	40[d]	0.52	−0.34	0.45	T.	2					P. Elmore.
Cando	Towner	1,488	15	42.3	−1.3	83	14	− 2	20	57	0.80	+0.06	0.52	2.0	3					E. T. Judd.
Carson	Morton	2,500	4	41.4		85	1	12	20	57	0.50		0.30	0.5	3	15	4	12	nw.	J. W. Evens.
Colgate	Steele	1,177	2	41.6		78	14	10	20	48	0.61		0.50	6.0	3	9	12	10	n.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6								0.10		0.10	T.	1	21	7	3	nw.	S. Friswold.
Crosby	Divide	1,954	9																	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	38.4	−2.1	73	6	6	20	39	0.67	−0.56	0.40	3.5	7	7	8	16	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	39.6	−4.6	71	6	15	20	42	1.10	+0.34	0.78	3.0	4	15	4	12	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	17	38.7[a]	−4.6	71[a]	13	12[a]	20	37[a]	1.13	+0.23	1.00	2.5	3				sw.	Geo. Miehel.
Dunseith	Rolette	1,682	20	35.0	−7.2	67	† 6	18	† 9	41	2.02	+1.30	1.04		5	9	10	12	n.	J. G. Lamont.
Eekman	Bottineau		11	38.6[a]		73[a]	13	10[a]	20	46[a]	1.29		0.80	2.0	7	11	5	15	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	41.8	−4.2	73	6	10	20	44	0.36	−0.42	0.36	T.	1	1	18	12	n.	O. A. Thompson.
Energy†‡	McLean		4								1.30		0.57	2.0	6	7	9	15	w.	N. W. Solenberger.
Epping	Williams	2,224	8								0.25		0.13	2.0	3	17	8	6	w.	M. E. Uggen.
Fessenden	Wells	1,610	4	38.9		77	6	4	20	49	0.43		0.12	2.0	4	14	10	7	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	45.2	−0.7	73	† 6	18	20	37	0.05	−1.31	0.05	T.	1	17	3	11	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	41.4	−3.2	69	14	12	20	40	0.35	−0.88	0.35	T.	1	10	12	9	nw.	F. O. Alin.
Garrison	McLean	1,901	21	40.6	−3.6	73	† 6	8	20	45	0.68	−0.14	0.31	2.0	4	10	10	11	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	40.2		75	13	11	20	48	0.85		0.65		2	12	4	15	nw.	C. H. Layman.
Grafton	Walsh	827	24	38.0[a]	−5.2	73[a]	6	7[a]	20	45[a]	0.79	−0.10	0.47	7.9	7				nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	41.6		78	3	8	20	44	0.35		0.35	0	1	15	4	12	nw.	G. H. Leick.
Granville	McHenry	1,504	9	41.4		74	13	12	20	40	1.38		0.99	2.0	5	11	9	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	11	35.8		70	6	− 2	20	39	1.16		0.60	8.0	5	9	6	16	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	38.4[f]		68[f]	13	17[f]	10	40[f]	1.55				4					C. E. Blackorby.
Hettinger	Adams	2,253	8	41.0		74	6	9	20	50	0.15		0.10	1.0	3	13	1	17	nw.	A. J. Ogaard.
Hillsboro	Traill	901	10	40.8		69	† 6	15	20	41	0.33		0.22	T.	4	15	12	4	nw.	F. E. Mayall.
Howard	Williams	2,275	7	39.5		72	†12	16	20	40	0.27		0.22	2.7	2	9	7	15	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	39.2	−6.3	75	6	6	20	49	0.09	−0.83	0.04	T.	3	10	3	18	nw.	S. Calvelage.
Lakota	Nelson	1,579	15																	C. R. Pettes.
Lamoine	Kidder	1,936	8																	E. V. Virgin.
Langdon	Cavalier	1,615	20	35.5		70	6	− 2	20	42	1.05		0.60	6.0	5	10	8	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	37.9	−6.5	70	6	9	20	40	0.84	−0.47	0.54	2.0	3	13	4	14	n.	G. G. Graham.
Lisbon	Ransom	1,091	12	40.0	−4.9	62	4	17	27	33	T.	−1.22	T.	T.	0	22	5	4		W. S. Adams.
McHenry	Foster	1,509	6	40.6		72	6	5	19	45	0.34		0.24	3.5	2	20	6	5	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22																	N. P. Swenson.
McLeod	Ransom	1,075	4	44.4		72	† 6	16	20	36	0.33		0.33	0	1	17	2	12	nw.	E. W. Griggs.
Maddock	Benson		1	39.6		80	1	0	20	49	0.51		0.15		4	8	4	19	sw.	F. P. Cowing.
Mandan	Morton	1,644	2	41.1		74	6	12	20	45	0.27		0.19		4					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	39.6	−4.2	72	6	5	20	43	0.69	−0.19	0.29	4.0	7				sw.	P. B. Anderson.
Manning	Dunn	2,450	1								1.26		1.00		3					A. J. Bretzlaff.
Marmarth	Slope		7	39.0[b]		69[b]	13	12[b]	23	40[b]	0.79		0.28	4.0	5	9	9	13	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	38.4		76	6	0	20	54	0.35		0.25	2.5	2	14	6	11	sw.	H. H. McCumber.
Mayville	Traill	975	20	41.8	−3.4	71	† 6	11	20	40	0.14	−1.10	0.10		3	17	3	11		W. C. Gould.
Melville	Foster	1,590	18	41.8	−1.9	76	6	14	20	40	0.10	−0.80	0.10	1.0	1				nw.	J. P. Kidder.
Milnor	Sargent	1,097	4								0.15		0.15	0	1	20	4	7	n.	Hj. Edman.
Minot	Ward	1,557	20	39.9	−4.5	76	13	14	20	46	1.13	+0.16	0.60	2.0	7	10	11	10	w.	W. I. Faris.
Minto	Walsh	820	23	39.4	−3.8	71	† 1	2	20	39	0.45	−0.74	0.25	6.5	4	14	8	9	n.	C. M. Evans.
Mott	Hettinger	2,424	9	41.0		78	6	10	20	52	0.65		0.38		3	11	9	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	40.1	−1.8	76	6	5	20	46	0.15	−0.73	0.11	T.	2	14	5	12	sw.	C. J. Hoof.
New England	Hettinger	2,400	22	41.2	−2.7	74	13	7	20	44	0.78	+0.14	0.78	0	1	7	15	9	nw.	A. M. Connolly.
New Salem	Morton	2,163	11	40.4	−4.7	75	12	11	20	43	0.66	−0.39	0.26		6	17	8	6	sw.	J. Christiansen.
Orange†‡	Adams	2,586	7	41.0		75	6	7	20	51	0.10		0.10	1.0	1	15	8	8	sw.	J. E. Goforth.
Oriska	Barnes	1,270	11	41.2	−4.1	71	† 6	12	20	40	0.02	−1.04	0.02	T.	1	11	16	4	nw.	J. J. Taylor.
Park River	Walsh	998	12	39.2[a]	−4.7	76[a]	6	11[a]	20	46[a]	0.81	−0.26	0.46	7.0	4				nw.	O. J. Silker.
Parshall	Mountrail		1																	J. A. Johnson.
Pembina	Pembina	789	42	35.4	−5.4	74	6	6	21	43	2.06	+0.57	0.80	10.0	10	9	16	6	ne.	C. W. Shumaker.
Power	Richland	1,020	24																	J. H. Radcliffe.
Powers Lake	Burke	2,205	1								0.95		0.30		4	10	13	8	sw.	C. Frank.
Steele	Kidder	1,857	19	45.5	+2.0	70	13	20	18	29	0.55	−0.17	0.50	2.5	3	12	18	1	nw.	H. S. Wood.
Taylor	Stark	2,493		41.0		69	6	11	20	38	0.67		0.34		5	9	13	9	w.	H. Leutz.
Towner	McHenry	1,482	14	40.4	−2.5	75	1	12	19	42	1.55	+0.44	1.05	1.0	4	9	11	11	nw.	B. Bagley.
Turtle Lake	McLean	1,899	4																	E. J. Jones.
University	Grand Forks	830	24	38.6	−5.4	70	6	9	20	38	0.64	−0.64	0.16	1.8	7	12	11	8	nw.	U. S. Weather Bureau.
Walpeton	Richland	962	22	37.7	−9.1	76	3	15	20	41	0.04	−1.60	0.04	T.	1	14	3	14	nw.	F. E. Smith.
Walhalla	Pembina	966	9	39.6		80	1	5	20	40	1.13		0.50	6.0	4	13	2	16	n.	Ivan Lee.
Washburn	McLean	1,734	18																	A. Wacker.
Westhope	Bottineau	1,508	10	38.0		70	13	13	20	39	0.98		0.82	T.	4	7	6	18	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	40.0	−2.9	72	13	20	9	38	0.63	−0.14	0.50	0.6	4	7	9	15	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	38.2	−4.0	70	13	11	20	42	1.44	+0.77	1.10	0.5	4	6	13	12	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	40.6		73	13	12	20	49	1.28		0.86	3.1	5	8	12	11	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	42.0	−0.8	73	3	16	20	41	0.41	−1.66	0.24	T.	5	15	5	11	nw.	U. S. Weather Bureau.
Averages				40.0	−3.8	85	1	− 2	20	57	0.69	−0.35	1.10	2.0	4	12	8	11	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for October, 1916.

Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Alexander	Missouri	.06		.49					.04														.15										0.74
Amenia ‖ ‖	Red	T.	T.				T.	.01									T.											T.			T.	0.01
Ashley	Missouri							.31											T.														0.31
Beach	Lit. Missouri	.16	.43						.05										T.									T.					0.64
Berthold Agency	Missouri	.24	.87				T.	.04							T.			T.	.08				T.	.07	T.	T.				.03		1.33
Beulah	Missouri																																
Bierman	Lit. Missouri	.26		.55															.32														1.13
Bismarck ***	Missouri		.03	.11															.01				.01	T.	T.	T.				.02			0.18
Bottineau ‖ ‖	Mouse		.10	.02	.70												.04	.05	.04			T.				.05	.05		.03				1.08
Bowbells ‖ ‖	Mouse		.30	.10	.66																									.10			1.16
Bowman	Grand		.10	.50					.02										.03														0.65
Buford	Missouri	.07	T.	.45					T.																T.								0.52
Caudo	Sheyenne		.08					.52											.20														0.80
Carson	Heart			.30															.05				.15										0.50
Colgate	Sheyenne		.01	T.														.10	.50			T.			T.		T.	T.			T.		0.61
Cooperstown	Sheyenne																	T.													.10		0.10
Crosby	Mouse																																
Devils Lake ***	Sheyenne		.04	.02									T.			T.	.13	.19	.23	T.		T.			.03		.03	T.			T.		0.67
Dickinson ‖ ‖	Heart		.10	.78					.02										.20														1.10
Donnybrook	Monse		.08	1.00														T.					.05		T.		T.						1.13
Dunseith	Mouse		.08	1.04													.10	.40									.40						2.02
Eckman	Mouse		.21	.80	.01												.08	.02				T.		.12		.05	T						1.29
Edgeley	James							.36											T.														0.36
Energy	Missouri		.07	.47														.10	.57				.07	T.							.02		1.30
Epping	Missouri	T.	.08					.04	T.							T.				T.			.13										0.25
Fessenden ‖ ‖	James		.12	T.	T.													.10	.10					T.		.11	T.				T.		0.43
Forman	Sheyenne							.05												T.													0.05
Fullerton	James	T.						.35											T.	T.													0.35
Garrison	Missouri		.05	.31	.10				T.											.20		T.	.02	T.	T.	T.							0.68
Goodall	Missouri			.65																			.20										0.85
Grafton ‖ ‖	Red		.10	.01													.07	.04	.47							.06						.04	0.79
Grand Rapids	James		T.					.35																									0.35
Granville	Mouse		.11	.99												.18	.08	.02				T.			T.		T.						1.38
Hannah	Pembina		.10	.28				T.									.08	.60							.10					T.			1.16
Hansboro	Red		.35	.40													*	.80															1.55
Hettinger	Grand		.03	.02						T.										.10														0.15
Hillsboro	Red		.08	.02														T.	T.							.22	.01						0.33
Howard	Missouri		.22					T.	T.						T.	T.	T.	T.	T.			T.	.05	T.	T.			T.					0.27
Jamestown ‖ ‖	James				.04														T.		.03				.02								0.09
Lakota	Sheyenne																																
Lamoine	Missouri																																
Langdon ‖	Pembina		T.	.27	.04												.09	T.	.60						T.		.05	T.	T.			T.	1.05
Larimore ‖	Red		.10	T.															.20			T.										.54	0.84
Lisbon ‖	Sheyenne																T.	T.															T.
McHenry	James		T.	T.													10	.24							T.								0.34
McKinney	Mouse																																
McLeod	Sheyenne							.33																									0.33
Maddock	Sheyenne		.13	.12													.15	T.	.11														0.51
Mandan ‖	Missouri		.05	.19	T.														.01				.02										0.27
Manfred	Sheyenne		.08	.08													.03	.05	.29							.10	.06	T.			T.	T.	0.69
Manning	Knife		.15	1.00															.11														1.26
Marmarth	Lit. Missouri		.23	.28				T.	T.										.20								.03		T.		.05		0.79
Marstonmoor	James			T.													T.	T.	.25				T.	T.			T.	T.			.10		0.35
Mayville	Red	.02															.10	T.														.02	0.14
Melville	James																	T.	.10						T.		T.						0.10
Milnor	Red		T.	T.				.15										T.	T.														0.15
Minot ‖ ‖	Monse		.10	.23	.60														.10				.03			.05	.02						1.13
Minto	Red		.15	.02														.03	.25												T.		0.45
Mott	Cannon Ball		.23	.38					T.										.04														0.65
Napoleon ‖ ‖	Missouri							.11												T.			.04	T.									0.15
New England	Cannon Ball			.78																													0.78
New Salem	Heart		.20	.26															.10				.05	.04						.01			0.66
Orange	Cannon Ball																		.10														0.10
Oriska	Sheyenne	T.						.02											T.	T.			T.	T.									0.02
Park River	Red		.18	T.															.10	.46			T.					T.			.07		0.81
Parshall	Missouri																																
Pembina ‖ ‖	Red		.32	.18						.22													.80	.20	.08	.06	.10		.02	.08			2.06
Power	Sheyenne																																
Powers Lake	Missouri	T.	.30						.20														.15		.30								0.95
Steele	Missouri			.02	.03														.50	T.			T.			T.					T.		0.55
Taylor	Heart		.34	.16					.01										.15				.01										0.67
Towner	Mouse		.16	1.05														T.	.10						.20	.04	T.						1.55
Turtle Lake	Missouri																																
University	Red		.06	T.												T.	.16	T.	.15			.04			.07		.07				.09		0.64
Wahpeton ‖	Red		.01						T.								T.									T.						T.	0.04
Walhalla	Pembina		.48	.05				T.										.50	.10								T.				T.		1.13
Washburn	Missouri																																
Westhope	Monse	T.	.02	.82													.08	T.									.06						0.98
Williston ***	Missouri	.04	.07	.50					T.									T.		T.			.02		T.						T.		0.63
Willow City	Mouse		.15	1.10													.06	.05	T.						T.		.08	T.					1.44
Zap	Knife		.26	.86															.10				.03	.03							T.		1.28
Moorhead, Minn ***	Red	.05	.05					.24					T.				.06		T.							T.	.01				T.		0.41

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	48	38	36	38	62	66	48	41	49	59	65	60	71	67	64	57	58	47	33	49	55	45	47	55	51	55	61	46	60	53	62	53.1
	Minimum	33	32	31	29	18	28	34	32	16	21	26	37	34	35	42	40	28	22	15	12	30	28	26	27	21	35	21	22	19	25	19	26.8
Amenia §§	Maximum	46	65	56	57	71	48	50	54	56	62	65	61	67	74	58	54	39	34	36	44	56	41	42	51	47	61	44	59	50	45	58	53.3
	Minimum	45	36	36	29	32	33	35	27	22	23	24	34	29	33	31	37	19	24	25	15	16	25	19	19	25	29	28	26	29	30	23	27.7
Ashley	Maximum	66	52	47	49	60	75	51	45	52	59	69	..	68	70	66	55	52	48	32	47	57	46	46	48	46	60	59	52	52	53	58	[a]54.7
	Minimum	32	28	33	33	34	23	36	35	26	28	31	..	32	46	35	36	21	27	24	10	25	28	27	23	30	34	29	34	22	27	23	[a]29.1
Beach	Maximum	52	52	48	48	57	68	50	50	48	60	72	60	72	67	67	57	57	40	34	45	55	48	48	54	59	56	65	46	55	52	64	55.0
	Minimum	32	28	32	28	26	28	33	32	18	24	28	34	32	34	38	33	30	17	14	21	28	33	24	23	24	31	27	23	23	28	28	27.4
Berthold Agency	Maximum	63	40	39	39	53	53	51	41	45	44	58	58	60	59	55	54	45	44	29	41	44	45	44	42	41	50	50	50	50	49	53	48.0
	Minimum	29	31	32	32	18	26	35	33	19	24	23	36	29	35	36	41	32	24	23	13	28	31	30	27	21	25	21	28	19	33	21	27.6
Bismarck	Maximum	56	43	42	44	59	75	46	49	52	62	69	61	73	70	59	59	55	34	30	48	55	58	44	51	44	59	61	46	58	52	65	53.5
	Minimum	34	36	35	32	24	31	38	35	28	27	28	37	34	37	45	33	30	26	21	13	30	31	28	22	28	30	24	25	28	34	25	30.0
Bottineau §§	Maximum	47	41	38	40	54	67	44	49	50	60	65	56	69	65	60	39	36	29	31	41	47	37	42	44	43	47	36	42	54	49	58	47.7
	Minimum	34	32	32	33	24	24	26	32	18	19	23	32	30	35	30	36	26	24	31	9	14	26	19	21	26	21	22	24	21	32	18	25.6
Bowbells §§	Maximum	43	40	35	40	51	65	49	50	54	59	60	65	70	63	64	60	51	54	28	43	51	48	51	49	48	50	45	37	54	56	58	51.3
	Miuimum	31	29	31	29	21	29	31	30	18	21	30	34	31	37	32	31	30	16	17	12	18	18	23	21	22	21	20	26	21	34	25	25.5
Carson	Maximum	85	48	40	41	70	74	48	48	50	60	71	60	72	70	62	56	59	42	40	45	55	42	45	50	46	48	49	50	56	56	65	54.7
	Minimum	28	32	31	27	22	25	35	32	24	27	33	32	32	36	32	32	29	22	15	12	28	29	25	20	22	36	36	25	30	32	27	28.0
Colgate	Maximum	75	55	56	58	58	75	57	53	55	56	68	74	70	78	56	50	40	32	33	45	55	50	40	55	48	66	50	52	52	48	62	55.7
	Minimum	30	35	38	36	28	27	39	33	20	24	28	40	30	39	34	20	18	28	23	10	20	25	20	23	30	28	20	28	24	30	21	27.4
Crosby	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum	54	39	41	45	53	73	44	50	47	61	68	56	70	67	55	59	28	30	27	37	46	35	41	50	42	50	39	42	50	44	58	48.4
	Miuimum	36	33	33	34	34	34	35	28	19	30	32	38	32	37	31	27	24	23	10	6	26	27	22	29	30	31	29	29	26	30	26	28.4
Dickinson	Maximum	50	34	41	40	56	71	40	39	48	58	67	58	70	68	63	53	62	27	32	40	53	43	45	53	49	54	63	48	57	52	64	51.5
	Minimum	28	28	32	30	21	30	35	32	20	25	25	30	34	38	39	44	28	25	18	15	26	29	24	23	24	27	21	29	25	32	22	27.7
Donnybrook	Maximum	51	40	35	37	54	66	53	45	51	60	67	57	71	65	57	59	40	28	28	45	52	42	41	51	41	52	..	48	56	50	59	[a]50.0
	Minimum	33	30	30	30	24	30	33	31	18	26	30	35	38	39	36	36	24	22	14	12	22	27	17	29	24	32	..	28	19	32	22	[a]27.4
Dunseith	Maximum	42	41	35	38	40	67	60	48	48	58	65	60	67	67	50	50	34	27	25	34	31	35	38	35	34	33	34	35	38	33	43	43.4
	Miuimum	36	31	31	32	35	26	35	31	18	25	46	39	44	40	31	32	22	22	18	25	24	22	22	21	21	20	20	20	19	19	22	26.7
Edgeley	Maximum	66	54	49	51	56	73	60	44	51	62	69	62	70	71	60	58	51	41	30	47	58	47	45	51	47	62	53	49	51	55	61	55.0
	Minimum	29	39	34	34	22	29	38	35	26	27	30	42	38	39	34	34	19	28	24	10	24	31	25	17	34	23	18	34	21	24	28	28.5
Fessenden §§	Maximum	57	37	40	47	57	77	48	50	53	63	69	60	73	69	60	44	35	31	26	44	52	38	45	55	43	53	49	49	54	48	60	51.2
	Minimum	32	33	32	30	28	28	34	33	19	22	28	37	27	36	32	42	23	23	22	4	15	27	25	22	29	26	21	27	22	28	18	26.6
Forman	Maximum	70	56	70	70	57	73	62	57	51	56	67	62	73	73	65	63	46	46	36	40	56	52	45	48	44	59	56	55	53	48	60	57.1
	Minimum	42	42	38	45	28	36	41	38	31	28	37	45	43	48	36	40	23	31	26	18	24	31	25	27	25	30	28	35	28	30	25	33.3
Fullerton	Maximum	59	50	59	50	54	68	65	48	49	57	64	61	67	69	55	57	52	43	31	45	56	41	42	47	45	60	54	48	48	52	55	53.3
	Minimum	45	37	36	35	24	28	39	34	26	26	30	38	34	39	35	35	21	30	23	12	24	28	27	22	34	27	24	30	25	24	25	29.6
Garrison	Maximum	60	43	38	43	53	73	57	46	53	64	66	60	73	70	57	57	50	45	31	43	53	47	43	51	43	55	62	52	56	50	63	53.5
	Minimum	31	31	32	32	22	28	34	33	19	25	24	36	34	34	40	37	27	23	13	8	30	30	29	25	25	28	21	28	23	30	28	27.7
Grafton §§	Maximum	57	39	51	49	54	73	51	55	50	63	69	58	58	70	56	42	29	33	31	33	43	38	37	54	43	50	..	44	47	42	53	[a]49.1
	Minimum	35	35	34	36	35	28	37	32	19	23	29	34	31	37	30	34	11	20	19	7	9	23	17	25	30	25	29	..	28	29	24	[a]26.9
Granville	Maximum	65	56	45	48	62	56	55	50	55	65	67	66	74	68	65	62	45	37	32	32	32	58	60	45	48	50	55	40	39	50	60	53.0
	Minimum	42	35	32	34	30	26	35	31	20	27	27	32	38	32	32	30	27	32	22	12	30	30	24	28	36	40	34	28	30	20	25	29.7
Hannah	Maximum	60	38	40	42	48	70	54	51	50	59	65	52	56	62	51	39	30	31	28	37	36	35	37	40	47	41	38	37	41	40	52	45.2
	Minimum	36	27	33	30	32	38	40	29	18	29	34	28	32	35	32	22	19	22	20	− 2	19	18	20	23	18	28	27	28	29	31	22	26.4
Hansboro	Maximum	60	42	39	44	52	67	46	50	52	57	53	53	68	64	..	..	..	..	..	..	45	34	38	40	45	48	36	38	48	55	57	[a]49.2
	Minimum	30	30	32	33	30	29	34	30	20	17	30	30	33	32	..	..	..	..	..	..	28	28	18	28	28	29	24	28	20	27	20	[a]27.5
Hettinger	Maximum	61	43	43	43	59	74	46	41	50	70	72	60	73	60	72	57	72	45	31	44	44	43	44	52	52	59	65	61	58	52	67	55.3
	Minimum	31	31	32	31	25	24	35	33	22	27	23	32	27	32	31	31	30	19	15	9	21	31	22	29	18	30	30	34	26	24	22	26.7
Howard	Maximum	56	55	55	53	54	55	48	54	50	60	66	72	72	60	60	58	54	50	32	50	51	35	41	47	52	52	53	41	56	55	60	53.5
	Minimum	27	24	26	24	19	26	21	30	19	28	28	34	34	34	37	35	32	20	20	16	30	26	23	21	20	26	26	19	26	21	20	25.5
Jamestown §§	Maximum	59	40	48	49	56	75	45	49	51	62	70	61	70	70	61	56	41	32	30	47	56	39	40	55	49	59	60	46	54	50	61	52.7
	Minimum	30	34	33	33	30	26	37	33	21	21	27	29	33	34	35	33	24	25	23	6	9	27	27	20	20	25	22	21	20	21	21	25.8
Lakota	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Laugdon	Maximum	61	42	39	45	50	70	51	50	48	60	68	52	61	63	56	36	31	27	29	34	45	34	36	42	39	45	34	39	45	53	50	46.3
	Minimum	36	32	31	32	25	28	28	30	17	20	27	28	27	27	32	31	15	21	20	− 2	3	18	19	23	28	28	30	28	28	31	24	24.7
Larimore §§	Maximum	50	39	48	50	53	70	46	51	49	61	66	57	62	68	50	41	35	31	31	35	47	37	37	54	50	38	42	42	47	47	42	50	47.9
	Minimum	32	35	33	36	29	30	39	33	20	26	29	39	33	42	32	35	16	25	20	9	20	28	18	23	32	32	27	32	22	20	19	27.9
Lisbon §§	Maximum	60	54	52	62	56	59	49	42	45	41	44	45	43	46	44	40	42	41	47	42	40	44	40	45	40	38	42	40	45	47	49	45.5
	Minimum	28	26	24	29	31	26	27	27	29	23	20	24	26	26	24	20	23	21	24	23	23	24	20	20	19	21	17	27	28	24	20	24.0
McHenry	Maximum	60	45	44	47	53	72	57	49	67	65	67	58	67	68	66	57	34	29	38	50	38	43	50	51	49	50	44	47	50	54	55	52.2
	Minimum	32	34	33	34	33	30	36	33	34	20	30	37	29	33	32	33	25	17	5	23	30	31	35	30	31	29	27	28	28	30	20	29.1
McKinney	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Maddock	Maximum	80	47	39	45	55	74	70	49	50	62	68	62	71	69	61	57	36	31	28	38	50	39	41	50	43	52	46	45	53	48	58	52.2
	Minimum	31	33	33	33	30	25	35	32	13	25	24	40	30	41	30	34	24	24	22	0	26	30	21	25	30	28	20	28	20	30	20	27.0
Marmarth	Maximum	52	36	40	33	57	68	53	36	46	58	68	59	69	..	66	55	68	39	30	46	..	40	44	51	50	53	65	44	58	49	62	[b]51.6
	Miuimum	29	29	30	26	19	28	31	31	26	23	28	33	39	..	34	34	30	20	14	19	..	31	12	18	19	33	28	26	20	28	24	[b]26.3
Minot §§	Maximum	45	39	40	43	58	72	44	49	53	63	70	59	76	70	65	53	43	30	31	45	54	37	43	51	43	53	60	38	58	53	62	51.6
	Minimum	31	32	32	33	26	26	30	34	20	18	28	28	39	43	37	38	32	25	15	14	19	31	27	28	28	26	25	31	21	32	25	28.2
Mott	Maximum	56	54	60	55	58	78	51	52	55	60	70	56	72	70	63	60	68	36	28	47	53	45	50	55	51	60	60	55	54	54	57	56.2
	Minimum	26	31	35	28	20	26	27	32	20	22	24	25	28	29	34	32	28	24	18	10	21	22	24	18	26	35	35	30	24	26	22	25.9
Napoleon §§	Maximum	58	40	45	48	58	76	42	45	53	62	69	63	71	71	57	55	52	30	33	50	56	40	46	48	55	60	58	48	54	53	61	53.5
	Minimum	30	31	30	29	19	30	35	32	23	26	27	31	30	36	34	38	18	23	22	5	25	26	27	23	25	32	23	29	20	29	20	26.7
New England	Maximum	56	54	48	50	51	46	48	52	61	64	72	61	74	67	66	68	72	46	35	40	44	48	57	59	55	59	62	65	59	52	54	56.3
	Minimum	38	36	30	30	29	30	21	25	27	28	30	31	30	38	29	30	29	22	15	7	26	21	19	19	21	24	27	27	24	24	22	26.1
New Salem	Maximum	59	48	39	42	53	43	55	46	55	60	63	75	69	62	58	44	43	44	27	43	55	44	45	43	41	58	62	53	57	51	68	51.8
	Minimum	29	30	31	28	20	23	35	35	23	35	38	35	42	42	42	24	28	22	13	11	29	29	27	27	23	32	32	25	29	31	25	28.9
Orange	Maximum	56	49	44	43	59	75	55	42	51	61	72	61	74	70	63	61	68	57	31	44	56	41	46	51	50	59	66	49	58	52	67	55.8
	Minimum	28	32	32	29	21	25	36	38	24	23	21	35	26	33	32	42	26	23	14	7	22	28	17	18	19	32	22	34	23	32	17	26.2
Oriska	Maximum	62	52	62	50	56	71	54	57	52	60	65	61	70	71	58	58	39	36	34	52	55	41	51	51	39	58	43	48	48	44	58	53.4
	Minimum	31	37	35	37	28	34	37	34	24	26	26	33	35	43	35	26	19	28	19	12	32	32	20	30	25	22	28	33	23	29	23	28.9
Park River	Maximum	71	46	45	48	52	76	64	..	53	62	69	59	60	67	52	56	29	32	31	34	44	37	37	54	43	50	40	43	47	43	51	[a]49.9
	Minimum	40	34	24	38	29	30	38	..	22	29	33	35	34	48	34	29	16	26	18	11	19	28	20	27	31	29	30	28	29	27	25	[a]28.6
Pembina §§	Maximum	44	38	36	41	61	74	70	66	61	52	56	44	46	44	42	44	38	36	34	32	32	31	36	34	40	43	41	42	41	38	46	44.6
	Minimum	31	28	31	28	29	31	42	38	36	34	32	31	28	26	28	26	28	22	18	12	6	10	12	21	18	32	34	26	24	26	22	26.1
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Miuimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	75	46	39	38	56	72	67	51	60	61	68	64	70	65	59	61	37	31	42	57	50	45	42	45	43	49	47	57	55	49	60	53.6
	Minimum	36	32	33	17	23	30	35	20	24	26	26	39	32	40	30	37	20	25	12	27	30	29	21	27	22	29	21	22	22	35	19	27.1
Turtle Lake	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
University	Maximum	52	45	56	46	54	70	49	52	49	62	64	57	59	69	46	54	32	33	32	32	46	38	39	52	40	52	39	44	46	45	52	48.6
	Minimum	39	37	37	35	31	37	38	31	21	28	33	33	32	36	31	20	17	28	19	9	17	30	24	26	24	24	31	31	32	32	26	28.5
Wahpeton §§	Maximum	71	58	76	53	52	71	45	48	37	53	51	46	62	65	67	56	42	34	25	31	35	27	29	35	36	36	39	39	36	39	33	46.0
	Minimum	38	38	38	36	34	30	40	36	26	25	35	40	30	35	32	38	17	25	25	15	18	26	18	22	26	28	30	30	27	28	24	29.4
Westhope	Maximum	59	37	38	38	37	49	66	49	52	65	68	69	70	65	59	61	29	29	31	42	45	47	47	48	45	43	46	49	54	52	47	49.5
	Minimum	34	33	34	33	32	29	36	32	19	23	27	30	33	32	33	29	26	24	23	13	18	21	23	24	28	26	25	23	22	20	19	26.6
Williston	Maximum	41	36	36	36	54	63	40	45	48	58	65	60	72	60	64	60	53	30	32	51	53	38	48	53	45	55	56	43	57	53	62	50.5
	Minimum	32	32	32	27	25	28	35	26	20	27	27	37	38	38	43	35	26	24	24	22	32	29	28	30	24	28	26	26	29	32	29	29.4
Willow City	Maximum	47	42	37	41	46	69	55	47	51	58	66	65	70	65	60	57	36	30	29	41	47	35	41	41	43	49	43	41	53	48	58	48.7
	Minimum	36	32	33	34	24	29	34	32	21	24	24	36	31	36	30	36	28	26	23	11	28	28	21	28	27	31	21	26	20	35	18	27.8
Zap	Maximum	59	42	39	43	57	72	48	44	50	59	67	61	73	70	59	57	57	49	25	45	56	45	45	53	53	58	61	45	58	45	65	53.5
	Minimum	26	31	31	30	19	23	33	31	18	23	20	33	30	33	42	40	28	23	21	12	29	30	29	25	20	38	21	26	23	34	33	27.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 26, 1916.

Departure of the Mean Temperature from the Normal, November, 1916.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., NOVEMBER, 1916. No. 11.

GENERAL SUMMARY.

The weather was favorable for all outdoor work, except plowing. Small grain threshing was completed in nearly all sections at the close of the month. The ground was mostly too dry, however, for fall plowing in the western and central portions of the State, although considerable was accomplished in the eastern part. There was considerably more than the usual sunshine, and no severe storms occurred. While the temperature averaged somewhat above the normal, the mean did not approach nearer than seven degrees the highest mean for the month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.06 inches. The highest was 30.83 inches at Bismarck, Burleigh County, on the 12th; the lowest was 29.04 inches at Devils Lake, Ramsey County, on the 6th.

TEMPERATURE.

The mean temperature for the State was 28.8°, or 3.0° above the normal, and 0.7° higher than the mean for November, 1915. The highest mean reported was 34.2° at Steele, Kidder County; the lowest was 23.8° at Bottineau, Bottineau County. The highest temperature reported was 75° at Beach, Golden Valley County, on the 5th, and at Lisbon, Ransom County, on the 7th; the lowest was −18° at Marmarth, Slope County, and Melville, Foster County, on the 13th. The greatest daily range of temperature was 56° at Orange, Adams County, on the 25th. The greatest monthly range was 92° at Marmarth Slope County; the least was 62° at Bowbells, Burke County. The distribution of temperature was exceptionally uniform.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 77 per cent, the average at 7 a. m. being 84 per cent, and at 7 p. m. 70 per cent.

PRECIPITATION.

The average precipitation for the State was 0.24 inch, or 0.36 inch below the normal, and 0.67 inch less than the average for November, 1915. The greatest monthly amount reported was 1.12 inches at Bowbells, Burke County; there was none at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 0.67 inch at Bowbells, Burke County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall for the State was 1.7 inches. The distribution of precipitation was quite even geographically. There were but two stormy periods, from the 6th to 11th, inclusive, and from the 20th to the 24th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.2 miles. The greatest wind movement was 7,632 miles at Devils Lake, an average of 10.6 miles per hour; the least was 5,684 miles at Williston, an average of 7.9 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 43 miles per hour from the southwest at University on the 6th.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 16, partly cloudy days 8, and cloudy days 6.

ERRATA, SEPTEMBER, 1916.

Page 68: Total precipitation at McHenry should be 1.54.
Page 69: Amount of precipitation at McHenry on the 13th should be .30, and total amount, 1.54.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1891...	20.5	−5.3	71	−35	0.86	+0.26	4	12	8	10	nw.
1892...	22.3	−3.5	75	−26	0.79	+0.19	4	8	9	13	nw.
1893...	22.4	−3.4	74	−27	0.57	−0.03	3	9	10	11	nw.
1894...	23.1	−2.7	71	−25	0.47	−0.13	4	10	8	12	nw.
1895...	20.6	−5.2	76	−25	1.08	+0.48	5	8	9	13	nw.
1896...	8.1	−17.7	62	−32	2.23	+1.63	9	8	7	15	nw.
1897...	20.0	−5.8	86	−28	0.32	−0.28	3	12	9	9	nw.
1898...	23.0	−2.8	69	−30	0.34	−0.26	3	13	8	9	s.
1899...	36.0	+10.2	68	2	0.81	+0.21	2	15	4	11	nw.
1900...	20.4	−5.4	64	−29	0.32	−0.28	5	14	7	9	nw.
1901...	26.8	+1.0	70	− 7	0.19	−0.41	1	15	8	7	nw.
1902...	29.6	+3.8	69	−12	0.24	−0.36	3	11	6	13	nw.
1903...	25.3	−0.5	78	−20	0.26	−0.34	2	13	4	13	nw.
1904...	35.7	+9.9	80	−10	0.09	−0.51	1	18	5	7	nw.
1905...	31.6	+5.8	88	−38	1.54	+0.94	9	7	13	10	nw.
1906...	23.8	−2.2	68	−16	1.62	+1.02	7	10	7	13	nw.
1907...	30.2	+4.4	85	−15	0.09	−0.51	1	16	8	6	nw.
1908...	31.1	+5.3	75	−15	0.97	+0.37	4	12	8	10	nw.
1909...	29.4	+3.6	88	−23	0.43	−0.17	3	11	9	10	nw.
1910...	23.9	−1.9	68	−23	0.37	−0.23	2	8	10	12	nw.
1911...	16.7	−9.1	58	−33	0.65	+0.05	6	12	8	10	nw.
1912...	31.8	+6.0	70	1	0.06	−0.54	1	14	9	7	nw.
1913...	34.1	+8.3	77	− 2	0.22	−0.38	2	15	8	7	nw.
1914...	30.7	+4.9	83	−30	0.35	−0.25	2	13	10	7	nw.
1915...	28.1	+2.3	71	−10	0.91	+0.31	4	10	10	10	nw.
1916...	28.8	+3.0	75	−18	0.24	−0.36	2	16	8	6	nw.

Climatological Data for November, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With 01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie	.....	1	29.0	.....	72	† 5	− 9	12	45	0.52	.....	0.34	.....	2	9	15	6	w.	M. B. Johnson.
Amenia	Cass	954	20	29.0	+2.7	69	3	− 3	14	48	0.05	−0.45	0.05	0.5	1	26	4	0	w.	E. T. Carley.
Ashley	McIntosh	2,001	19	30.7	+4.7	68	3	− 5	13	45	0 20	−0.33	0.20	2.0	1	20	4	6	nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	30.8	.....	75	5	−10	†12	45	0.35	.....	0.20	.....	2	22	5	3	nw.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	22	29.0	+1.5	61	† 5	− 9[a]	13	51[a]	0.45	−0.09	0.28	2.5	2	15	9	6	w.	C. L. Hall.
Beulah	Mercer	1,910	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. W. Koester.
Bierman	Slope	.....	.....	32.3	.....	69	4	− 7	13	40	0.33	.....	0.33	0.5	1	17	4	9	sw.	E. F. Biermann.
Bismarck	Burleigh	1,674	42	30.6	+4.6	67	5	− 5	13	45	0.13	−0.55	0.07	0.8	3	12	7	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	23.8	+1.6	64	5	−11	13	41	0.24	−0.36	0.12	3.0	3	15	7	8	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	25.0	.....	54	4	− 8	12	35	1.12	.....	0.67	.....	2	26	0	4	.....	G. H. Phelps.
Bowman	Bowman	.....	2	32.0	.....	70	5	−13	13	47	0.39	.....	0.16	0.8	3	18	1	11	w.	L. S. Diehl.
Buford	Williams	1,944	37	29.8	+3.0	72	5	− 9	12	47	0.27	−0.21	0.20	.....	2	16	7	7	nw.	P. Elmore.
Cando	Towner	1,488	15	29.4[b]	+4.2	65[c]	5	− 8[b]	13	50[c]	0.20	−0.30	0.13	.....	2	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	4	31.6	.....	65	† 3	− 8	13	40	0.61	.....	0.50	0.6	6	21	4	5	nw.	J. W. Evens.
Colgate	Steele	1,177	2	29.6	.....	70	3	− 6	25	40	0.25	.....	0.15	2.5	2	11	9	10	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	1.0	1	21	9	0	nw.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,482	12	26.8	+4.2	59	3	− 4	13	35	0.12	−0.59	0.11	1.5	2	12	12	6	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	29.2	+1.9	66	† 4	− 8	11	40	0.38	−0.15	0.16	4.0	4	23	2	5	w.	J. C. Thysell.
Donnybrook	Ward	1,760	17	27.8	−0.2	65	5	− 9	12	41	0.10	−0.53	0.05	3.0	3	18	9	3	w.	Geo. Michel.
Dunseith	Rolette	1,682	20	27.6	+2.6	59	2	− 5	23	53	0.08	−0.27	0.04	.....	2	17	4	9	nw.	J. G. Lamont.
Eckman	Bottineau	.....	11	27.0	.....	70	5	− 6	†13	44	0.36	.....	0.18	4.0	2	19	8	3	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	31.4	+1.9	69	3	− 4	†13	43	T.	−0.38	T.	T.	0	5	18	7	w.	O. A. Thompson.
Energy†‡	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.17	2.0	2	11	12	7	w.	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	0.42	.....	0.22	6.0	2	22	4	4	w.	M. E. Uggen.
Fessenden	Wells	1,610	4	26.4	.....	68	5	−12	13	40	0.22	.....	0.12	2.0	2	24	3	3	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	31.8	+4.6	66	3	1	13	35	0.07	−0.44	0.50	0.8	2	14	3	13	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	31.2	+2.8	68	3	− 3	13	39	0.19	−0.49	0.10	1.9	3	14	7	9	nw.	F. O. Alin.
Garrison	McLean	1,901	21	28.6[a]	+3.6	67[a]	5	− 8[a]	†12	37[a]	0.70	+0.02	0.42	3.0	2	.....	.....	.....	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	26.8[a]	.....	69[a]	5	− 7[a]	13	46[a]	0.44	.....	0.29	3.0	2	.....	.....	.....	nw.	C. H. Layman.
Grafton	Walsh	827	24	28.2[a]	+5.7	64[a]	3	− 7[a]	25	39	0.01	−0.63	0.01	0.2	1	.....	.....	.....	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	30.7	.....	69	3	− 7	13	46	0.08	.....	0.08	0.8	1	15	7	8	nw.	G. H. Leick.
Granville	McHenry	1,504	9	29.8	.....	67	5	− 4	13	45	0.22	.....	0.20	2.2	2	19	6	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	11	26.6	.....	59	5	− 7	13	36	0.20	.....	0.20	2.0	1	23	7	0	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	25.5	.....	60	5	−10	25	40	0.10	.....	0.10	1.0	1	23	5	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	8	31.2	.....	69	5	−10	13	46	0.29	.....	0.12	T.	3	8	12	10	nw.	A. I. Ogard.
Hillsboro	Traill	901	10	29.8	.....	63	3	− 3	13	31	0.15	.....	0.10	1.5	2	14	3	3	nw.	F. E. Mayall.
Howard	Williams	2,275	7	26.4	.....	65	5	−10	12	48	0.86	.....	0.61	8.6	2	14	8	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	28.1	+1.6	68	3	− 9	13	46	0.15	−0.58	0.10	0.5	2	18	4	8	w.	S. Calvelage.
Lakota	Nelson	1,579	15	26.0[a]	+3.6	64[a]	1	− 7[a]	13	44[a]	0.21	−0.57	0.16	4.0	2	.....	.....	.....	sw.	C. R. Pettes.
Lamoine	Kidder	1,936	8	24.5[c]	.....	67[c]	6	− 9	†12	50	0.20	.....	0.10	2.0	2	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	20	25.3	.....	59	5	− 9	13	40	0.04	.....	0.04	0.4	1	12	8	10	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	28.2	+3.8	63	3	− 4	14	36	0.15	−0.23	0.10	1.5	2	17	4	9	sw.	G. G. Graham.
Lisbon	Ransom	1,091	12	30.5	+0.9	75	7	− 3	†13	55	T.	−0.66	T.	T.	0	19	6	5	nw.	W. S. Adams.
McHenry	Foster	1,509	6	27.0	.....	60	3	− 8	13	41	0.21	.....	0.21	2.0	1	22	6	2	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22	28.2	+5.0	67	5	− 5	12	50	0.20	−0.47	0.20	2.0	1	10	18	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	4	.....	.....	68	3	.....	.....	.....	0.10	.....	0.05	1.0	2	22	0	8	nw.	E. W. Griggs.
Maddock	Benson	.....	1	26.8	.....	63	5	− 9	12	40	0.08	.....	0.08	0.8	1	11	10	9	w.	F. P. Cowing.
Mandan	Morton	1,644	2	29.3	.....	68	5	− 7	13	48	0.07	.....	0.03	0.4	3	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	28.4	+1.0	68	5	− 7	12	43	0.23	−0.53	0.12	1.5	2	19	9	2	nw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.30	.....	1	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	29.8	.....	74	5	−18	13	43	0.75	.....	0.21	4.2	6	14	11	5	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	20	30.8	+3.0	65	3	− 7	25	43	0.10	−0.57	0.10	.....	1	20	3	7	n.	W. C. Gould.
Melville	Foster	1,590	18	32.2[b]	+4.7	62[b]	6	−18[c]	13	38[b]	0.30	−0.12	0.30	3.0	1	.....	.....	.....	.....	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	18	7	5	nw.	Hj. Edman.
Minot	Ward	1,557	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. I. Faris.
Minto	Walsh	820	23	28.6[a]	+4.1	63[c]	5	− 4[c]	†13	37[a]	0.17	−0.39	0.15	T.	2	17	7	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	9	28.5	.....	67	2	−10	13	51	0.44	.....	0.24	1.8	5	12	8	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	28.8	+3.8	67	† 3	−10	13	51	0.10	−0.60	0.08	1.0	2	19	3	8	sw.	C. J. Hoof.
New England	Hettinger	2,400	22	31.4	+3.0	70	1	− 8	11	41	0.20	−0.35	0.20	2.0	1	11	17	2	nw.	J. M. Connolly.
New Salem	Morton	2,163	11	30.4	+0.6	65	† 3	−11	13	46	0.17	−0.16	0.15	1.5	3	16	8	6	nw.	J. Christianson.
Orange†‡	Adams	2,586	7	31.6	.....	66	5	−12	13	56	0.16	.....	0.16	0	1	11	11	8	nw.	T. F. Young.
Oriska	Barnes	1,270	11	31.1	+1.5	72	4	− 6	12	48	0.05	−0.56	0.05	0.5	1	7	21	2	nw.	L. L. Taylor.
Park River	Walsh	998	12	28.2	−0.7	60	5	− 6	25	35	0.02	−0.82	0.02	T.	1	16	4	10	nw.	O. J. Seker.
Parshall	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	42	24.2	+2.0	56	18	− 6	13	42	0.00	−0.72	0.00	0	0	13	14	3	sw.	C. W. Shumaker.
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.60	5.0	1	11	15	4	nw.	C. Frank.
Steele	Kidder	1,857	19	34.2	+8.2	63	3	− 7	12	34	0.16	−0.43	0.10	1.0	3	10	19	1	nw.	H. S. Wood.
Taylor	Stark	2,493	.....	30.2	.....	64	5	1	14	36	0.48	.....	0.19	.....	8	6	19	5	w.	H. Leutz.
Towner	McHenry	1,482	14	27.6	+6.6	69	6	− 5	13	42	0.30	−0.20	0.20	3.0	2	16	9	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	4	29.8	.....	66	5	− 5	13	40	0.35	.....	0.20	3.0	2	12	15	3	nw.	E. J. Jones.
University	Grand Forks	830	21	28.0	+2.7	64	3	− 2	†13	35	0.01	−0.72	0.01	0.1	1	18	7	5	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	.....	.....	.....	.....	− 1	†14	39	T.	−0.67	T.	T.	0	20	4	6	nw.	F. E. Smith.
Walhalla	Pembina	966	9	28.2[f]	.....	62[f]	† 3	−10[f]	25	40[f]	0.10	.....	0.10	1.0	1	15	5	10	w.	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	25.2	.....	66	7	− 4	†13	44	0.24	.....	0.24	T.	1	.....	.....	.....	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	29.6	+4.4	70	5	− 5	13	38	0.35	−0.25	0.18	1.7	3	8	9	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	26.4	+5.6	66	5	− 4	13	41	0.55	+0.14	0.40	4.0	2	10	17	3	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	28.8	.....	67	5	−11	13	45	0.17	.....	0.09	2.0	2	15	6	9	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	29.8	+5.4	65	3	0	14	33	0.10	−0.88	0.08	1.0	2	16	9	5	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	28.8	+3.0	75	† 5	−18	13	56	0.24	−0.36	0.61	1.7	2	16	8	6	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk S. D.

Daily Precipitation for November, 1916.

Stations.	Watershed.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri						.18			T.											T.	.34		T.								0.52
Amenia ‖ ‖	Red																					.05											0.05
Ashley	Missouri									T.	T.										T.							.20					0.20
Beach	Lit. Missouri						.15			.20														T.									0.35
Berthold Agency	Missouri						.28				T.	T.									.17			T.				T.					0.45
Beulah	Missouri																																
Bierman	Lit. Missouri						.33			T.											T.						T.						0.33
Bismarck ***	Missouri						.03			.03	T.	T.									.07			T.				T.					0.13
Bottineau ‖ ‖	Mouse							.12													.11	.01		T									0.24
Bowbells ‖ ‖	Mouse						.45														.67												1.12
Bowman	Grand						.08			.15		T.																.16					0.39
Buford	Missouri									.07											.20			T.									0.27
Cando	Sheyenne							.13													.07												0.20
Carson	Heart						.50			.05											.02	.02		.01				.01					0.61
Colgate	Sheyenne					T.					T.		T.								.15	.10		T.	T.								0.25
Cooperstown	Sheyenne											T.									.10												0.10
Crosby	Mouse																																
Devils Lake ***	Sheyenne						.01				T.	T.									.11			T.						T.			0.12
Dickinson ‖ ‖	Heart					T.	.05				.16	T.	T.								.05	.12		T.	T.								0.38
Donnybrook	Mouse						.05					.03									.02												0.10
Dunseith	Mouse						.04														.04												0.08
Eckman	Mouse						.18														.18			T.									0.36
Edgeley	James										T.										T.												T.
Energy	Missouri						.03														.17												0.20
Epping	Missouri						.20															.22											0.42
Fessenden ‖ ‖	James							T.													.10	.12											0.22
Forman	Sheyenne										T.										.05							.02					0.07
Fullerton	James										.02										.07			T.				.10					0.19
Garrison	Missouri						.28													42													0.70
Goodall	Missouri						.15														.29												0.44
Grafton ‖ ‖	Red																							.01									0.01
Grand Rapids	James										T.										.08							T.					0.08
Granville	Mouse						.02				T.	T.									.20				T.								0.22
Hannah	Pembina						.20																	T.									0.20
Hansboro	Red						T.														.10			T									0.10
Hettinger	Grand						T.		.10	T.	T.	T.									T.	.12		T.				.07					0.29
Hillsboro	Red										T.										.05	.10			T.								0.15
Howard	Missouri						.25			T.											.61			T.									0.86
Jamestown ‖ ‖	James						T.															.05							.10				0.15
Lakota	Sheyenne						.05				T.										.16	T.		T.	T.			T.	T.				0.21
Lamoine	Missouri						T.			T.											.10			.10									0.20
Langdon ‖	Pembina						T.		T.			T.													.04								0.04
Larimore ‖	Red																				.10			.05									0.15
Lisbon ‖	Sheyenne										T.	T.																					T.
McHenry	James																				.21			T.									0.21
McKinney	Mouse																				.20			T.									0.20
McLeod	Sheyenne																				.05	.05											0.10
Maddock	Sheyenne																				.08												0.08
Mandan ‖	Missouri	T.						T.			.01										.03	.03		T.				T.					0.07
Manfred	Sheyenne						.11					T.									.12			T.	T.								0.23
Manning	Knife																				.30												0.30
Marmarth	Lit. Missouri						.21			.21	.13	.03												.01				.16					0.75
Marstonmoor	James																																
Mayville	Red																				.10							T.					0.10
Melville	James									T.											.30												0.30
Milnor	Red										T.										T.												T
Minot ‖	Mouse																																
Minto	Red								.02	.15	T.																						0.17
Mott	Cannon Ball						.02				.24				.05						.07						.06						0.44
Napoleon ‖	Missouri											T.										.08							.02				0.10
New England	Cannon Ball																					.20											0.20
New Salem	Heart									.01											.15			.01									0.17
Orange	Cannon Ball									.16																							0.16
Oriska	Sheyenne																				.05			T.									0.05
Park River	Red						T.			.02	T.										T.			T.									0.02
Parshall	Missouri												.20																				0.20
Pembina ‖	Red																																0.00
Power	Sheyenne																																
Powers Lake	Missouri																				.60	T.											0.60
Steele	Missouri									.03	.03		T.		T.						.10												0.16
Taylor	Heart					.01	.06			.12	.01	.01									.19	.01		.07									0.48
Towner	Mouse						.10														.20												0.30
Turtle Lake	Missouri	T.					.15														.20			T.									0.35
University	Red								T.		T.				T.						.01			T.					T.	T.			0.01
Wahpeton ‖	Red										T.											T.						T.	T.				T.
Walhalla	Pembina									T.														.10									0.10
Washburn	Missouri																																
Westhope	Mouse						T.	.24												T.			T.										0.24
Williston ***	Missouri						.16			T.	T.	T.	T.								.18		.01	T.									0.35
Willow City	Mouse						.15														.40			T.									0.55
Zap	Knife						.09														.08			T.									0.17
Moorhead, Minn ***	Red						.01				T.	T.									.11			T.						T.			0.12

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	56	58	59	68	72	72	43	44	36	28	21	10	12	24	41	47	51	56	47	32	33	45	35	26	40	43	37	43	38	43	....	42.1
	Minimum	26	15	31	27	27	31	18	21	20	15	−4	−9	−8	−2	7	21	19	25	19	26	1	23	19	−1	1	21	16	31	21	13	....	15.8
Amenia §§	Maximum	61	63	69	59	61	54	56	53	52	31	30	20	22	21	30	49	47	57	41	30	36	40	33	22	34	50	31	47	33	41	....	42.4
	Minimum	24	24	24	21	20	47	23	16	16	16	9	8	−1	−3	−1	1	20	19	20	21	22	18	18	14	0	3	19	14	24	11	....	15.6
Ashley	Maximum	55	61	68	59	63	60	48	46	45	38	20	20	14	22	43	45	48	55	51	29	28	44	35	26	42	52	43	45	39	46	....	43.0
	Minimum	31	20	35	21	38	36	28	30	22	16	9	5	−5	−4	−2	28	14	22	19	15	22	17	16	5	9	22	20	24	24	16	....	18.4
Beach	Maximum	57	58	60	67	75	51	48	48	46	28	15	11	12	28	45	56	49	56	47	40	42	51	38	40	39	40	52	44	46	45	....	44.5
	Minimum	22	18	33	30	30	31	16	20	18	12	0	−10	−10	0	10	23	23	27	23	18	11	23	14	0	20	13	18	27	27	26	....	17.1
Berthold Agency	Maximum	53	51	55	57	61	61	38	43	43	34	21	18	16	15	52	46	52	55	46	38	33	46	41	28	45	43	35	44	40	47	....	41.9
	Minimum	27	16	25	21	30	32	20	16	25	12	3	−5	−9	−3	1	28	15	20	18	20	16	23	18	....	−1	17	18	28	26	12	....	[a]16.2
Bismarck	Maximum	58	57	64	64	67	57	47	47	43	26	22	14	16	23	46	44	54	58	47	30	33	49	34	26	44	51	34	48	41	49	....	43.1
	Minimum	33	21	28	23	43	32	24	19	25	15	1	−2	−5	0	1	27	19	23	22	21	13	20	18	6	7	20	21	31	21	16	....	18.2
Bottineau §§	Maximum	53	50	58	55	64	39	37	40	34	22	14	13	11	20	38	40	44	45	45	27	32	40	25	14	27	32	32	39	29	33	....	35.1
	Minimum	21	20	25	24	30	27	25	11	16	10	2	−8	−11	−9	−3	7	15	14	17	25	17	17	15	−5	−5	7	15	16	20	8	....	12.4
Bowbells §§	Maximum	51	53	51	54	45	46	44	43	35	23	10	10	13	20	29	40	47	48	49	33	32	40	41	35	32	36	38	38	40	38	....	37.1
	Minimum	23	20	21	25	21	22	23	21	20	12	−1	−8	−7	−10	3	10	12	21	20	18	11	12	11	10	−1	5	10	16	23	20	....	12.8
Carson	Maximum	56	58	65	64	65	50	50	45	45	35	22	15	12	20	46	45	55	47	45	32	35	50	49	35	47	50	40	45	45	42	....	43.7
	Minimum	28	24	36	34	44	30	38	20	25	14	5	−3	−8	−3	9	28	18	27	19	20	19	21	19	3	9	25	25	30	22	17	....	19.5
Colgate	Maximum	60	62	70	68	60	59	53	59	51	36	29	20	20	17	32	48	48	56	52	30	26	38	38	25	39	50	35	50	30	40	....	43.2
	Minimum	28	22	30	28	36	36	27	19	20	21	20	0	−5	−5	−3	20	15	20	15	15	18	13	20	2	−6	16	15	14	24	10	....	15.9
Crosby	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Devils Lake	Maximum	53	53	59	55	57	51	43	45	44	24	16	12	11	22	37	44	45	47	44	27	28	41	30	14	31	36	22	44	30	40	....	36.8
	Minimum	31	27	32	25	41	35	27	23	23	8	2	−3	−4	0	4	20	10	24	16	19	14	23	11	1	0	18	18	22	19	15	....	16.7
Dickinson	Maximum	55	58	61	66	66	54	43	46	37	19	15	12	11	24	44	44	52	56	46	28	31	43	27	30	40	43	40	42	43	49	....	40.8
	Minimum	26	18	28	28	38	32	20	20	27	16	6	−5	−8	1	6	22	19	24	20	28	6	12	17	−3	0	25	25	28	26	16	....	17.5
Donnybrook	Maximum	55	54	55	58	65	60	38	40	36	28	22	10	14	18	42	42	51	54	45	35	29	42	35	22	32	38	28	39	35	10	....	38.7
	Minimum	33	20	38	24	26	31	23	22	24	15	4	−9	−6	0	1	26	19	28	18	1.	11	22	14	0	2	25	18	24	25	13	....	16.9
Dunseith	Maximum	57	59	57	58	58	57	47	39	37	32	25	18	13	12	20	38	34	46	45	39	33	40	38	21	29	40	30	44	36	32	....	38.2
	Minimum	51	50	48	49	41	41	39	31	24	16	−4	7	8	5	2	12	11	21	24	9	7	4	−5	−2	−2	6	5	4	10	0	....	17.1
Edgeley	Maximum	59	62	69	60	64	61	49	50	49	41	24	21	11	24	41	47	51	56	50	40	41	49	48	41	37	53	44	49	39	46	....	45.9
	Minimum	33	27	27	22	30	38	23	20	21	17	7	6	−4	−4	−2	27	16	27	22	15	20	11	6	4	0	22	20	19	21	15	....	16.9
Fessenden §§	Maximum	51	56	60	59	68	42	44	47	45	23	25	16	15	21	41	41	51	51	48	28	29	41	28	21	38	42	33	46	35	42	....	39.7
	Minimum	25	22	28	20	36	36	25	17	20	15	8	−8	−12	−7	−4	6	11	14	16	15	14	12	19	−2	−2	2	15	11	21	10	....	13.0
Forman	Maximum	59	59	66	60	61	60	48	52	50	42	25	23	18	24	32	45	45	56	47	34	32	41	35	30	41	42	38	44	36	42	....	42.9
	Minimum	29	26	36	28	35	42	25	22	25	20	15	12	1	2	3	24	18	21	22	22	25	22	25	14	9	22	21	15	21	15	....	20.6
Fullerton	Maximum	58	56	68	60	66	58	47	49	47	40	23	21	16	23	39	46	49	57	47	32	31	42	33	25	35	48	36	47	39	46	....	42.8
	Minimum	31	28	30	23	33	30	33	22	28	16	12	4	−3	−2	0	25	27	26	22	19	19	16	22	12	5	20	20	24	25	25	....	19.7
Garrison	Maximum	52	62	59	61	67	61	43	45	40	31	21	16	10	22	43	45	53	47	30	32	42	36	25	40	41	34	....	43	38	42	....	[a]40.7
	Minimum	28	24	29	24	34	32	23	20	20	16	7	−8	−8	0	1	25	18	18	20	12	20	16	0	0	25	20	....	25	24	16	....	[a]16.6
Grafton §§	Maximum	55	55	64	54	62	56	48	50	45	28	25	20	18	23	33	45	48	55	44	29	35	46	27	23	29	39	30	49	....	39	....	[a]40.5
	Minimum	30	23	32	23	29	43	30	18	20	16	6	−4	−6	−4	−3	13	14	19	21	25	19	16	23	9	−7	4	17	10	23	....	....	[a]15.8
Granville	Maximum	60	55	58	60	67	40	45	45	40	40	30	20	15	20	42	46	50	50	53	43	45	45	32	38	40	40	30	42	32	40	....	42.1
	Minimum	28	25	28	30	22	25	28	20	20	10	5	−2	−4	0	4	25	20	20	20	20	22	24	15	4	18	10	20	23	20	22	....	17.5
Hannah	Maximum	52	56	53	55	59	45	39	38	35	25	23	24	25	24	36	40	47	50	40	33	40	31	29	28	23	27	31	42	35	39	....	38.1
	Minimum	29	26	30	33	36	35	30	19	19	9	4	−5	−7	−2	2	10	15	14	12	18	18	15	−4	5	10	14	15	18	19	18	....	15.1
Hansboro	Maximum	52	53	56	52	60	54	42	35	41	28	17	10	20	21	36	43	49	57	39	31	35	40	32	20	27	34	32	44	32	36	....	37.6
	Minimum	23	23	30	20	35	32	25	12	13	10	−2	−5	3	6	10	16	9	17	19	19	12	20	10	0	0	25	20	....	25	24	16	....	[a]13.4
Hettinger	Maximum	58	61	62	66	69	45	43	44	24	29	20	13	13	28	46	47	53	61	53	28	51	54	38	33	51	52	46	44	41	44	....	43.9
	Minimum	22	16	16	22	33	33	29	22	14	16	8	1	−10	0	6	28	23	28	21	23	18	19	23	1	11	22	28	30	23	29	....	[a]15.8
Howard	Maximum	51	53	55	59	65	45	40	42	34	24	16	15	10	25	42	50	51	52	41	30	32	39	32	30	41	36	36	38	35	42	....	38.5
	Minimum	20	16	21	11	19	19	19	19	18	12	−3	−10	−9	−3	10	22	23	26	26	18	9	25	10	−1	−1	20	18	26	18	15	....	13.8
Jamestown §§	Maximum	59	60	68	58	65	47	47	49	47	25	36	16	15	20	39	47	50	53	49	28	29	44	32	28	40	59	32	40	33	44	....	41.6
	Minimum	21	23	27	17	19	27	24	18	21	14	7	−2	−9	−6	−5	26	13	18	17	19	13	28	4	1	22	18	16	24	11	28	....	14.6
Lakota	Maximum	64	60	54	58	58	54	....	45	43	25	23	15	13	22	35	44	46	46	45	35	29	40	30	18	30	39	23	44	29	37	....	[a]38.1
	Minimum	20	23	19	38	38	35	....	15	19	10	3	−6	−7	−6	−5	15	19	19	15	19	15	14	17	0	−5	19	13	15	25	10	....	[a]14.0
Lamoine	Maximum	58	55	....	....	....	67	55	45	43	30	20	14	10	20	42	42	49	42	47	33	28	....	....	22	38	40	35	45	34	42	....	[c]38.2
	Minimum	21	21	....	....	....	24	20	15	20	10	0	−9	−9	−8	−8	22	14	20	15	16	12	....	....	−5	2	15	20	15	15	11	....	[c]10.8
Langdon	Maximum	51	52	55	52	59	48	41	38	40	31	22	15	14	19	32	39	43	51	39	29	29	39	26	21	29	34	29	43	30	35	....	36.2
	Minimum	24	21	21	22	26	39	27	18	16	13	4	−7	−9	−6	0	8	10	16	20	17	18	21	5	15	17	13	13	25	13	....	....	14.4
Larimore §§	Maximum	55	55	63	53	59	51	47	51	47	26	25	20	17	23	35	45	47	51	41	28	30	40	30	28	20	42	31	47	35	44	....	39.5
	Minimum	32	27	33	25	34	43	28	20	21	19	4	−2	−3	−4	0	18	11	23	22	24	20	14	24	−2	−3	12	12	15	25	13	....	16.8
Lisbon §§	Maximum	46	50	53	49	52	55	75	61	58	33	40	34	36	38	38	36	44	50	56	42	40	36	38	41	40	38	42	38	38	38	....	44.5
	Minimum	24	26	24	20	26	24	20	26	24	17	14	13	−3	−3	10	11	16	14	24	22	18	10	14	10	12	11	16	22	18	16	....	16.5
McHenry	Maximum	54	52	60	59	58	55	44	45	44	31	24	14	12	15	38	49	47	49	48	28	28	39	31	15	32	40	30	45	32	42	....	38.7
	Minimum	38	20	34	21	32	34	24	23	21	10	4	−5	−8	−6	−3	12	2	15	10	21	16	21	15	0	2	19	17	16	25	17	....	15.2
McKinney	Maximum	60	52	55	64	67	40	35	44	40	38	16	14	16	22	42	47	52	51	51	35	45	55	34	23	40	41	31	41	40	44	....	41.2
	Minimum	26	30	27	17	17	26	25	21	25	15	8	−5	−3	−2	5	19	19	24	16	20	15	15	15	−1	−1	20	17	20	10	10	....	15.3
Maddock	Maximum	55	54	59	57	63	57	43	45	44	33	18	15	14	21	38	42	47	48	46	38	29	40	36	21	37	38	34	42	35	41	....	39.6
	Minimum	29	28	29	19	37	33	26	18	22	1	1	−9	−8	−5	−2	21	10	19	13	19	15	15	18	−3	−2	21	15	19	15	10	....	14.1
Marmarth	Maximum	55	59	60	61	74	53	42	45	45	31	15	7	9	25	41	41	48	53	46	31	46	50	35	33	46	48	38	41	3	53	....	42.4
	Minimum	24	20	35	29	31	21	16	18	28	12	0	−9	−18	1	16	30	26	29	24	21	11	19	14	2	10	10	29	29	19	16	....	17.1
Minot §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mott	Maximum	65	67	60	66	66	50	47	46	40	36	30	20	21	27	32	37	43	40	36	30	33	32	21	48	50	52	50	43	47	46	....	42.7
	Minimum	17	16	32	19	32	26	10	12	13	2	−2	−8	−10	−2	9	17	25	25	24	20	23	10	−3	0	17	23	23	20	21	13	....	14.3
Napoleon §§	Maximum	59	62	67	63	67	46	47	48	47	40	40	16	15	23	44	45	50	55	54	30	39	44	31	27	43	54	34	48	47	45	....	44.1
	Minimum	23	18	24	24	29	30	22	18	20	24	7	−8	−10	−8	−7	10	7	15	13	15	19	15	20	−2	2	15	18	19	20	12	....	13.5
New England	Maximum	70	64	60	54	50	48	48	40	38	46	20	24	18	32	50	47	51	59	54	49	38	38	41	44	50	55	41	50	50	52	....	46.1
	Minimum	41	30	27	26	24	26	26	21	18	10	−8	−3	−6	0	13	12	20	20	18	22	9	12	0	18	19	24	30	21	9	22	....	16.7
New Salem	Maximum	58	58	65	63	65	58	47	45	39	20	22	15	10	22	46	47	55	56	58	32	35	40	29	34	38	45	34	45	40	41	....	42.9
	Minimum	25	26	34	25	38	22	20	17	17	10	5	−5	−11	−5	0	10	18	25	24	22	18	24	20	18	22	25	29	27	22	17	....	18.0
Orange	Maximum	60	58	65	64	66	60	57	47	42	39	22	16	14	27	47	46	54	59	49	28	39	52	47	32	60	51	45	46	41	58	....	46.4
	Minimum	21	14	37	26	40	34	6	10	19	16	11	13	−12	−4	3	28	21	25	22	24	15	19	16	−3	4	21	29	30	9	7	....	16.7
Oriska	Maximum	63	58	58	72	60	58	57	57	57	41	41	21	21	26	34	41	51	51	46	46	36	41	29	34	34	48	36	48	43	42	....	45.0
	Minimum	24	30	10	40	38	42	45	22	28	9	21	−6	−2	−2	−2	11	15	21	25	20	20	15	8	−1	−1	19	18	13	14	23	....	17.2
Park River	Maximum	54	39	52	53	60	57	45	47	45	33	22	17	15	22	35	44	46	52	41	33	32	29	32	22	29	25	25	47	40	39	....	38.1
	Minimum	32	29	30	26	27	36	29	21	22	18	11	−1	−2	0	4	21	15	26	25	25	22	18	22	8	−6	20	17	15	25	14	....	18.3
Pembina §§	Maximum	52	49	47	48	46	44	46	40	32	30	26	28	32	36	38	40	42	55	41	42	38	32	28	24	26	22	18	26	28	26	....	36.1
	Minimum	28	28	26	24	26	21	20	22	18	10	4	−1	−6	4	8	9	12	14	22	18	16	12	8	6	4	8	2	0	2	4	....	12.2
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	56	53	56	60	68	69	41	43	41	30	18	13	9	20	42	42	49	49	43	37	29	40	35	23	37	30	28	41	34	39	....	39.4
	Minimum	30	18	30	20	31	30	29	21	20	15	9	−4	−5	−2	0	24	14	20	13	20	13	20	17	−2	−4	18	17	21	25	19	....	15.7
Turtle Lake	Maximum	55	55	60	60	66	60	50	45	42	35	28	23	15	20	42	40	50	53	46	40	30	42	35	25	37	40	33	45	33	41	....	41.7
	Minimum	31	21	30	23	40	35	30	22	25	15	8	−3	−5	0	2	23	20	20	20	20	15	20	18	2	2	22	17	25	24	15	....	17.9
University	Maximum	56	52	64	53	64	58	46	51	47	26	25	12	16	20	28	44	46	55	43	30	30	42	32	17	30	41	28	44	31	38	....	39.0
	Minimum	31	28	29	24	30	37	24	20	24	10	3	−1	−2	−2	2	14	20	22	19	27	23	22	14	3	1	21	13	21	25	12	....	17.1
Wahpeton §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	26	24	26	22	24	50	24	21	22	18	11	10	0	−1	−1	14	22	21	18	18	19	21	22	8	5	5	21	7	22	13	....	17.1
Westhope	Maximum	52	53	50	53	56	60	66	42	44	42	20	22	15	22	42	42	49	49	41	30	22	43	31	16	26	33	36	38	26	39	....	38.7
	Minimum	20	21	22	20	24	25	22	20	22	5	6	−3	4	0	3	5	8	19	7	5	3	8	13	4	−4	17	13	26	23	13	....	11.8
Williston	Maximum	56	55	57	66	70	40	43	45	36	25	16	9	12	28	47	46	50	54	44	32	34	45	32	25	42	44	40	44	39	45	....	40.7
	Minimum	30	30	30	32	31	24	23	24	16	2	−4	−5	1	15	24	24	24	20	20	7	29	12	4	4	24	21	30	21	21	18	....	18.6
Willow City	Maximum	52	51	57	58	66	39	40	43	36	27	18	13	14	20	41	41	47	49	44	37	28	40	25	19	35	33	24	40	33	38	....	36.9
	Minimum	25	18	28	17	32	35	28	16	19	12	9	5	−4	−2	0	21	14	17	12	19	14	18	16	0	22	16	17	20	25	11	....	16.0
Zap	Maximum	53	58	59	65	67	58	45	45	39	31	19	15	14	22	45	45	52	57	45	31	33	43	35	26	45	43	36	43	41	45	....	41.9
	Minimum	23	19	29	22	38	31	20	18	23	15	4	−6	−11	−5	0	22	16	22	16	21	15	21	19	0	3	20	20	27	20	10	....	15.7

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

DECEMBER, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 26, 1917.

Departure of the Mean Temperature from the Normal, December, 1916.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., DECEMBER, 1916. No. 12.

GENERAL SUMMARY.

Unusually severe weather conditions prevailed over the entire State during December. The temperature averaged more than 10° below the normal, and is the lowest of record in the climatological history of the State, covering the period 1891-1916. The nearest approach to this record was 4.7° in 1893. The precipitation was also exceptionally heavy, being only exceeded during two preceding Decembers (1891 with an average of 1.33 inches and 1909 with 1.27 inches). All of this precipitation was in the form of snow, and being accompanied in several instances by high winds, caused much suffering to humans and livestock, and much delay to railway and wagon traffic. The excessive snowfall necessitated the feeding of much roughage to livestock, particularly to cattle.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.02 inches. The highest was 30.68 inches at Bismarck, Burleigh County, on the 29th; the lowest was 29.28 inches at Devils Lake, Ramsey County, on the 26th.

TEMPERATURE.

The mean temperature for the State was 2.7°, or 10.2° below the normal, and 13.1° lower than the mean for December, 1915. The highest mean reported was 9.2° at New England, Hettinger County; the lowest was -5.2° at Pembina, Pembina County. The highest temperature reported was 61° at New England, Hettinger County, on the 1st and 3d, and at Orange, Adams County, and Zap, Mercer County, on the 3d; the lowest was -50° at Marstonmoor, Stutsman County, on the 20th. The greatest daily range of temperature was 62° at Eckman, Bottineau County, on the 14th. The greatest monthly range was 108° at Napoleon, Logan County; the least was 72° at Pembina, Pembina County. The distribution of temperature was quite uniform, and all stations produced means below the normal.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 85 per cent, the average at 7 a. m. being 87 per cent, and at 7 p. m. 83 per cent.

PRECIPITATION.

The average precipitation for the State was 1.21 inches, or 0.70 inch above the normal, and 0.69 inch more than the average for December, 1915. The greatest monthly amount reported was 3.09 inches at Steele, Kidder County; the least was 0.02 inch at Dunseith, Rolette County. The greatest amount recorded in any twenty-four consecutive hours was 1.80 inches at Hansboro, Towner County, on the 26th. The average snowfall for the State was 13.9 inches. The average number of days with 0.01 inch or more of precipitation was 5. There were three stormy periods, the 6th-7th, 11th to 17th, and 25th to 27th. The distribution of precipitation was uneven, both geographically and throughout the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.1 miles. The greatest wind movement was 8,116 miles at Devils Lake, an average of 10.9 miles per hour; the least was 5,580 miles at Williston, an average of 7.5 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 62 miles per hour from the northwest at University on the 16th.

SUNSHINE AND CLOUDINESS.

The sunshine was slightly above the normal; the average number of clear days was 15, partly cloudy days 8, and cloudy days 8.

ERRATA, NOVEMBER, 1916.

Page 84: Monthly mean and departure at University should be 27.8° and +2.5°.
Page 86: Minimum temperature at University should be 8° on the 26th and 24° on the 29th, and mean minimum 16.8°.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P-cdy days.	Cl'dy days.	
1891...	16.1	+3.2	50	−41	1.33	+0.82	4	12	8	11	nw.
1892...	7.1	−5.8	60	−39	0.57	+0.06	4	13	8	10	nw.
1893...	4.7	−8.2	55	−36	0.85	+0.34	6	11	9	11	nw.
1894...	19.1	+6.2	70	−32	0.29	−0.22	2	16	7	6	nw.
1895...	13.8	+0.9	62	−32	0.29	−0.22	3	12	9	10	nw.
1896...	16.4	+3.5	53	−35	0.37	−0.14	3	13	9	9	nw.
1897...	10.8	−2.1	69	−35	0.22	−0.29	3	12	8	11	nw.
1898...	12.1	−0.8	55	−38	0.24	−0.27	3	14	9	8	nw.
1899...	12.8	−0.1	60	−26	0.32	−0.19	3	13	7	11	nw.
1900...	17.3	+4.4	58	−29	0.31	−0.20	4	13	8	10	nw.
1901...	12.4	−0.5	61	−43	0.74	+0.23	5	10	7	14	nw.
1902...	7.8	−5.1	49	−35	0.58	+0.07	4	14	7	10	nw.
1903...	11.6	−1.3	57	−33	0.77	+0.26	6	11	7	13	nw.
1904...	14.2	+1.3	55	−43	0.02	−0.49	5	7	8	16	nw.
1905...	15.3	+2.4	55	−34	0.16	−0.35	4	16	2	13	nw.
1906...	8.4	−4.5	48	−40	1.07	+0.56	6	11	7	13	nw.
1907...	20.1	+7.2	68	−26	0.30	−0.21	3	15	7	9	nw.
1908...	14.4	+1.5	62	−37	0.38	−0.13	3	13	10	8	nw.
1909...	5.2	−7.7	54	−42	1.27	+0.76	7	9	8	14	nw.
1910...	12.9	0.0	56	−34	0.42	−0.09	4	12	8	11	nw.
1911...	14.9	+2.0	61	−33	0.39	−0.12	4	10	8	13	nw.
1912...	18.9	+6.0	72	−28	0.43	−0.08	4	14	8	9	nw.
1913...	22.7	+9.8	61	−21	0.07	−0.44	1	18	6	7	nw.
1914...	5.4	−7.5	57	−42	0.50	−0.01	4	12	9	10	nw.
1915...	15.8	+2.9	57	−27	0.52	+0.01	5	11	9	11	nw.
1916...	2.7	−10.2	61	−50	1.21	+0.70	5	15	8	8	nw.

Climatological Data for December, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie		1	3.4	.....	55	3	−35	20	49	0.58	.....	0.38	.....	3	7	14	10	w.	M. B. Johnson.
Amenia	Cass	954	20	3.3	−9.3	56	4	−34	22	42	1.05	+0.61	0.45	10.5	4	24	0	7	n.	E. T. Carley.
Ashley	McIntosh	2,001	19	5.0	−8.8	59	3	−37	20	41	1.90	+1.58	0.70	19.0	6	15	4	12	nw.	R. C. Miles.
Beach	Golden Valley	2,576	10	7.0	.....	60	4	−31	†13	45	0.17	.....	0.06	.....	4	18	8	5	nw.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	22	3.2[a]	+13.8	58[a]	3	−44[a]	20	52[a]	1.13	+0.74	0.58	17.0	5	20	2	9	nw.	C. L. Hall.
Beulah	Mercer	1,910	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. W. Koester.
Bierman	Slope	.....	.....	8.0[a]	.....	55[a]	3	−27[a]	20	46[a]	0.78	.....	0.25	7.3	6	.....	.....	.....	sw.	E. F. Biermann.
Bismarck	Burleigh	1,674	42	3.6	−11.4	60	3	−42	20	46	1.52	+0.90	0.63	21.7	11	12	11	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	24	1.5	−9.0	44	3	38	20	46	0.36	−0.19	0.21	.....	6	11	12	8	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	4	0.2	.....	46	3	41	20	46	0.53	.....	0.30	.....	2	25	0	6	.....	G. H. Phelps.
Bowman	Bowman	.....	2	5.5	.....	55	3	−32	13	45	0.28	.....	0.11	16.0	4	15	0	16	w.	L. S. Diehl.
Buford	Williams	1,944	37	3.7[a]	−10.3	53[a]	3	−35[a]	21	49[a]	0.65	+0.07	0.56	.....	2	.....	.....	.....	nw.	P. Elmore.
Cando	Towner	1,488	15	3.1[c]	−4.8	52[f]	3	−40	20	52[f]	0.71	+0.33	0.60	.....	4	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	4	6.6	.....	58[a]	3	−33	20	48[a]	1.09	.....	0.45	11.0	8	13	11	7	nw.	J. W. Evens.
Colgate	Steele	1,177	2	4.0	.....	55	4	−34	20	46	0.95	.....	0.50	9.5	4	17	10	4	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	6	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.30	8.0	5	16	9	6	nw.	S. Friswold.
Crosby	Divide	1,954	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Anderson.
Devils Lake	Ramsey	1,478	12	0.8	−7.2	54	3	−37	19	41	0.90	+0.51	0.44	15.9	9	12	7	12	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	24	6.4	−12.0	58	3	−32	29	47	0.98	+0.53	0.25	9.8	11	13	6	12	w.	J. C. Thysell.
Donnybrook	Ward	1,760	17	2.8	−11.5	47	† 3	−40	20	44	0.55	+0.01	0.20	6.5	5	18	6	7	nw.	Geo. Michel.
Dunseith	Rolette	1,682	20	2.0	−7.2	46	4	−31	15	49	0.02	−0.37	0.02	0.2	1	20	2	9	n.	J. G. Lamont.
Eckman	Bottineau	.....	11	0.8	.....	58	4	−45	19	62	1.30	.....	0.40	17.0	5	19	7	5	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	15	5.4	−9.5	59	3	−36	20	40	0.79	+0.34	0.55	12.0	6	7	14	10	nw.	O. A. Thompson.
Energy†‡	McLean	.....	4	.....	.....	.....	.....	.....	.....	.....	1.25	.....	0.50	18.5	5	.....	.....	.....	.....	N. W. Solenberger.
Epping	Williams	2,224	8	.....	.....	.....	.....	.....	.....	.....	1.36	.....	0.55	14.5	6	21	3	7	nw.	M. E. Uggen.
Fessenden	Wells	1,610	4	0.6	.....	58	3	−42	20	52	1.85	.....	0.80	18.5	6	20	4	7	nw.	G. T. Seymour.
Forman	Sargent	1,249	24	5.8	−9.2	58	3	−36	20	38	0.75	+0.26	0.30	7.5	5	16	4	11	nw.	A. Maltby.
Fullerton	Dickey	1,439	18	6.0	−8.2	52	† 3	−36	20	42	1.88	+1.02	0.80	18.8	6	13	7	11	nw.	F. O. Alin.
Garrison	McLean	1,901	21	0.6	−14.2	52	3	−43	20	47	1.87	+1.38	0.96	18.8	5	16	8	7	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	2	1.2	.....	55	3	−42	†20	42	1.10	.....	0.60	10.0	3	17	6	8	nw.	C. H. Layman.
Grafton	Walsh	827	24	0.3	−7.9	53	† 3	−34	19	39	1.61	+1.11	0.60	17.5	4	19	0	12	nw.	A. R. T. Wylie.
Grand Rapids	LaMoure	1,321	4	4.2	.....	58	3	−44	20	46	1.00	.....	0.40	10.0	4	17	4	10	nw.	G. H. Leick.
Granville	McHenry	1,504	9	0.4[j]	.....	52[j]	....	−37[j]	20	50[j]	0.68	.....	0.60	7.1	3	.....	.....	.....	.....	W. A. Christianson.
Hannah	Cavalier	1,568	11	0.2	.....	47	3	−41	20	44	1.50	.....	0.50	15.0	5	20	6	5	nw.	J. Moffatt.
Hansboro	Towner	1,597	8	0.3	.....	48	3	−42	20	44	2.53	.....	1.80	25.3	5	.....	.....	.....	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogaard.
Hillsboro	Traill	901	10	3.1	.....	52	4	−32	19	37	1.94	.....	0.80	14.0	6	18	9	4	nw.	F. E. Mayall.
Howard	Williams	2,275	7	0.0	.....	49	3	−36	20	43	0.80	.....	0.60	8.0	2	13	8	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	1.4	13.3	60	3	−40	21	54	0.75	+0.01	0.60	7.5	3	18	5	8	nw.	S. Calvelage.
Lakota	Nelson	1,579	15	0.4	10.0	53	3	−38	19	43	0.78	0.15	0.32	19.7	7	11	16	4	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	8	0.8	.....	54	3	−45	20	40	1.90	.....	.....	19.0	6	20	5	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	20	3.1	.....	47	3	−42	20	47	2.40	.....	1.20	24.0	3	15	10	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	21	1.9	−9.6	55	3	−34	19	40	1.20	+0.81	0.70	22.0	2	16	4	11	n.	G. G. Graham.
Lisbon	Ransom	1,091	12	4.8	10.4	55[a]	4	−33	20	39	0.20	−0.43	0.20	2.0	1	17	4	10	nw.	W. S. Adams.
McHenry	Foster	1,509	6	1.0	.....	54	3	−42	20	46	2.22	.....	0.80	21.0	5	23	3	5	nw.	P. E. Trudeau.
McKinney	Renville	1,640	22	2.7	8.6	51	3	−41	20	46	0.50	+0.07	0.20	5.0	3	4	22	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Griggs.
Maddock	Benson	.....	1	0.7[d]	.....	54[e]	3	−44	20	44[e]	0.59	.....	0.49	.....	2	18	4	9	nw.	F. P. Cowing.
Mandan	Morton	1,644	2	3.4	.....	60[a]	3	−46	28	50[a]	1.06	.....	0.73	.....	5	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	13	1.8	−10.6	54	3	−40	19	43	1.53	+0.67	1.00	17.5	8	.....	.....	.....	nw.	P. B. Anderson.
Manning	Dunn	2,450	1	.....	.....	.....	.....	.....	.....	.....	0.19	.....	0.15	.....	2	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	7	5.5	.....	53[a]	† 1	−29	13	44[a]	0.74	.....	0.26	11.1	6	12	7	12	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	7	.....	.....	.....	.....	−50	20	.....	0.80	.....	0.60	8.0	3	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	20	3.7	−10.2	55	3	−33	19	48	1.35	+0.88	0.70	14.0	10	20	3	8	n.	W. C. Gould.
Melville	Foster	1,590	18	4.0[c]	−8.3	58[b]	3	−37[c]	†19	41[c]	1.00	+0.65	0.80	10.0	2	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	4	.....	.....	.....	.....	.....	.....	.....	2.35	.....	1.60	12.6	3	19	5	7	n.	Hj. Edman.
Minot	Ward	1,557	20	1.0	−12.7	53	3	−44	†20	54	1.70	+1.33	0.60	17.0	5	11	8	12	nw.	W. I. Faris.
Minto	Walsh	820	23	0.6	−10.3	50	4	−34	†19	45	1.71	+1.25	1.00	.....	7	23	2	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	9	2.3	.....	53	4	−34	†13	50	1.48	.....	0.48	14.5	6	13	7	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	24	2.0	−11.0	60	3	48	20	48	1.45	+0.96	1.00	14.5	6	15	4	12	sw.	C. J. Hoof.
New England	Hettinger	2,400	22	9.2	−9.3	61	† 1	−31	13	59	0.60	+0.18	0.30	6.0	3	13	13	5	nw.	J. M. Connolly.
New Salem	Morton	2,165	11	3.6	−13.0	59	3	−40	20	47	2.02	+1.68	0.70	20.2	7	16	8	7	nw.	J. Christianson.
Orange†‡	Adams	2,586	7	6.3	.....	61	3	−35	20	47	1.00	.....	0.30	10.0	6	11	9	11	nw.	T. F. Young.
Oriska	Barnes	1,270	11	3.3	−11.2	57	3	−33	19	59	1.60	+1.18	0.80	16.0	3	9	20	2	n.	J. J. Taylor.
Park River	Walsh	998	12	3.6[d]	−9.5	59[d]	4	−33[d]	21	45[d]	2.23	+1.77	0.77	.....	9	.....	.....	.....	.....	O. J. Sicker.
Parshall	Mountrail	.....	1	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.53	.....	1	15	11	5	nw.	J. A. Johnson.
Pembina	Pembina	789	42	5.2	11.8	36	7	−36	19	42	2.80	+1.95	1.00	28.0	4	11	11	9	nw.	C. W. Shumaker.
Power	Richland	1,020	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	1	.....	.....	.....	.....	.....	.....	.....	0.84	.....	0.45	8.4	6	7	16	8	nw.	C. Frank.
Steele	Kidder	1,857	19	3.8	10.6	55	3	−42	20	51	3.09	+2.71	1.30	24.0	7	16	8	7	nw.	H. S. Wood.
Taylor	Stark	2,493	.....	6.4	.....	56	4	28	20	40	0.65	.....	0.29	.....	6	6	9	16	w.	H. Leutz.
Towner	McHenry	1,482	14	1.8	−10.6	52	3	−42	20	40	0.80	+0.51	0.60	8.0	3	22	2	7	nw.	B. Bagley.
Turtle Lake	McLean	1,899	4	3.1	.....	55	3	41	20	48	1.20	.....	0.50	12.0	5	19	6	6	nw.	E. J. Jones.
University	Grand Forks	830	24	0.6	−10.7	51	3	−34	19	46	1.66	+1.16	0.66	16.9	9	16	9	6	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	22	6.8	−8.7	55	3	−33	†20	41	1.07	+0.64	0.74	.....	7	19	2	10	nw.	F. E. Smith.
Walhalla	Pembina	966	9	.....	.....	.....	.....	.....	.....	.....	2.80	.....	1.60	28.0	4	.....	.....	.....	.....	Ivan Lee.
Washburn	McLean	1,734	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Wacker.
Westhope	Bottineau	1,508	10	1.2	.....	43	† 2	−39	20	38	0.80	.....	0.30	8.0	3	2	20	9	nw.	W. A. Meddaugh.
Williston	Williams	1,875	37	2.6	−11.0	52	3	−33	20	41	1.50	+0.84	0.64	14.1	6	12	9	10	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	24	1.0	−10.7	50	3	−42	20	44	1.50	+1.08	0.70	15.0	5	10	16	5	nw.	M. A. Ostby.
Zap	Mercer	1,800	3	2.1	.....	61	3	−41	20	50	0.63	.....	0.60	10.5	2	15	8	8	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	35	4.4	−6.3	53	4	−31	21	41	1.17	+0.43	0.52	11.7	11	17	9	5	s.	U. S. Weather Bureau.
Averages	.....	.....	.....	2.7	−10.2	61	† 1	−50	20	62	1.21	+0.70	1.80	13.9	5	15	8	8	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Orange, Thunder Hawk, S. D.

Daily Precipitation for December, 1916.

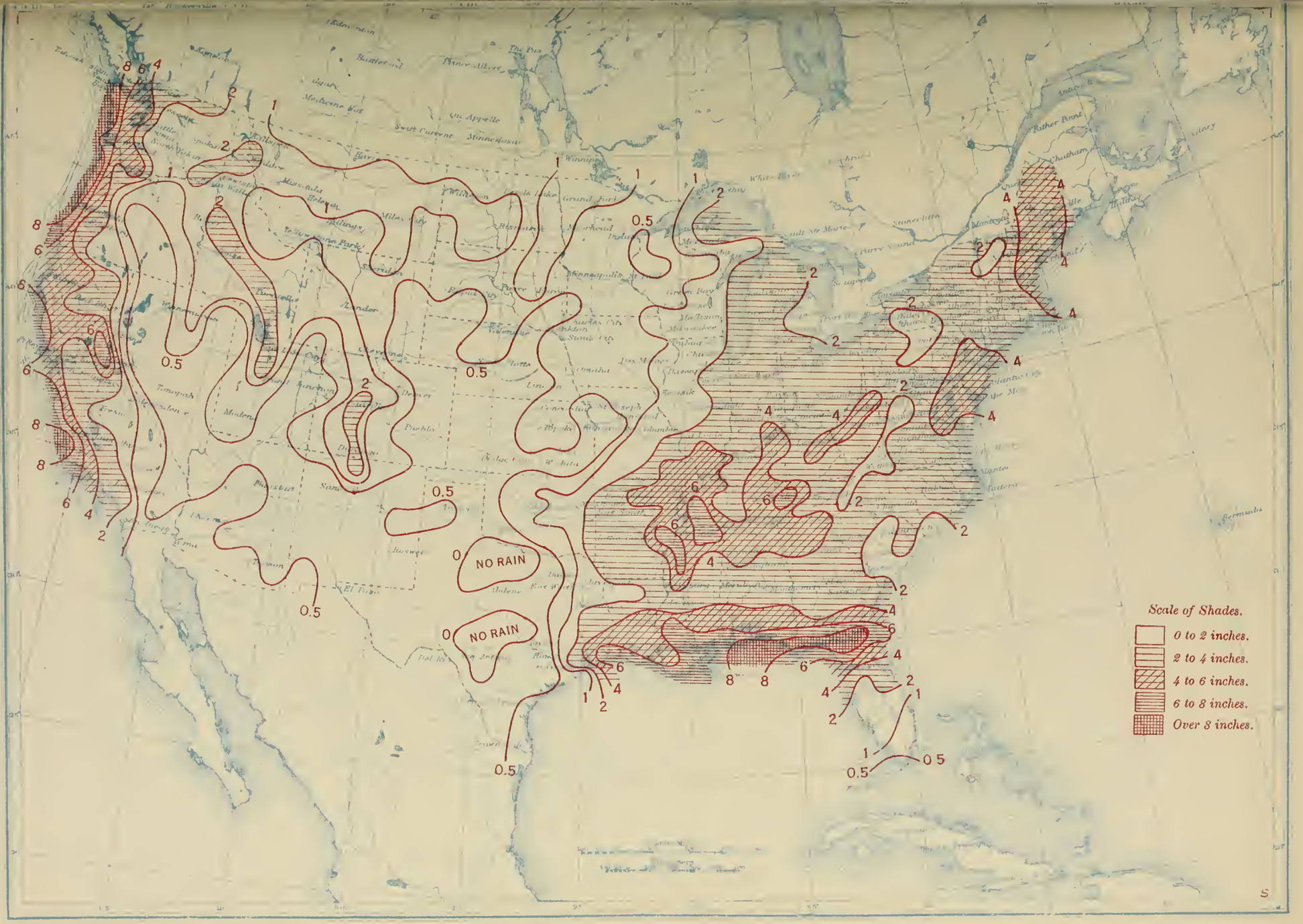
Stations.	Watershed.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Alexander	Missouri					.08											.38									.12							0.58
Amenia ‖ ‖	Red						.30	.10	T.										T.						T.	.20	.45						1.05
Ashley	Missouri						.20								.20		.20							.30	.30	.70						1.90
Beach	Lit. Missouri				T.		.05									.04			.06					.02								0.17
Berthold Agency	Missouri						.07	T.				.08			T.		.13								.27	.58	T.					1.13
Beulah	Missouri																																
Bierman	Lit. Missouri						T.			.10		.05			T.	T.			T.					.08	T.	.25	.20	.10					0.78
Bismarck ***	Missouri				T.		.01	.04	T.		T.	.04	T.		T.	.15	.11		.01					.08	.10	.34	.63	.01					1.52
Bottineau ‖ ‖	Mouse										.02		T.	T.	.03	T.	.01		.02							.07	.21	T.					0.36
Bowbells ‖ ‖	Mouse																									.30	.23						0.53
Bowman	Grand						.11				.04								.07					.06									0.28
Buford	Missouri									T.		T.						T.								.56	.09	T.					0.65
Candо	Sheyenne						.06	.04								.01										.60							0.71
Carson	Heart							.02	.08			.02					.05							.05	.45	.02	.40						1.09
Colgate	Sheyenne						.50	.10																		.15	.20						0.95
Cooperstown	Sheyenne						.10	.10																	.20	.10	.30						0.80
Crosby	Mouse																																
Devils Lake ***	Sheyenne						.13	.11	.01	T.		.02	T.		T.	.03			.01						T.	.09	.41	.09	T.				0.90
Dickinson ‖ ‖	Heart				T.			.20			T.	.02	.12				.01	.02	T.	.01		.02			.15	.25	.13	.05					0.98
Donnybrook	Mouse						.20				T.		T.				.10									*	.25						0.55
Dunseith	Mouse										.02																T.						0.02
Eckman	Mouse						.35	.05			T.	T.			T.	T.			T.			T.	T.			.20	.40	.30					1.30
Edgeley	James						.04	T.					.02				.18								*	*	.55						0.79
Energy	Missouri						.03										.12									.30	.50	.30					1.25
Epping	Missouri						.18					.04					.24									.55	.25	.10					1.36
Fessenden ‖ ‖	James							.30	.10								T.		.05						T.	.10	.50	.80					1.85
Forman	Sheyenne							.30									.20		.05							.05	.15						0.75
Fullerton	James							.25	T.			T.	.06			.02	.35		T.					T.	T.	.40	.80						1.88
Garrison	Missouri						.05	.07				T	.05				T	T.								.74	.96						1.87
Goodall	Missouri						.25																			.25	.60						1.10
Grafton ‖ ‖	Red							.60	.25																		.45	.31					1.61
Grand Rapids	James						T.	.30								.10			T.					.20	.40								1.00
Granville	Mouse								.01																	.07	.60						0.68
Hannah	Pembina							.40	T.		T.					.20										.10	.50	.30					1.50
Hansboro	Red						T.						.20			.20										.03	1.80	.30					2.53
Hettinger	Grand																																
Hillsboro	Red						.54	.40	.05		T.					T.									.05	T.	.80	.10					1.94
Howard	Missouri									T.																.60	.20						0.80
Jamestown ‖ ‖	James						T.	.10								T.	.05		T.					T.	T.	T.	.60						0.75
Lakota	Sheyenne						.12	.15			.01	T.			.04	T.			T.							.02	.32	.12					0.78
Lamoine	Missouri						*	.30										.20								*	*	1.40					1.90
Langdon ‖ ‖	Pembina							1.20			.20																1.00						2.40
Larimore ‖ ‖	Red							.50																			.70						1.20
Lisbon ‖ ‖	Sheyenne						T.	.20		T.			T.							T.						T.							0.20
McHenry	James							.80				T.						.01								.40	.41	.60					2.22
McKinney	Mouse					.20				T.							.10									.20							0.50
McLeod	Sheyenne																																
Maddock	Sheyenne							.10																		*	.49						0.59
Mandan ‖	Missouri					T.	T.	.01					.03				.05	T.		T.					.24	T.	.73						1.06
Manfred	Sheyenne						.15	.08					T.		T		.02		.03						.02	.08	1.00	.15					1.53
Manning	Knife				.04																								15				0.19
Marmarth	Lit. Missouri							.06	T.	T.	T.	.10				.26	T.	T.		.10				.05			.17						0.74
Marstonmoor	James															.20								T.	*	.60							0.80
Mayville	Red						.25	.05	.02			.02	.05	.01		.05									.15	.70	.05						1.35
Melville	James						T.	.20											T.								.80						1.00
Milnor	Red							.70							T.	T.	.05	T.								T.	1.60						2.35
Minot ‖ ‖	Mouse							.60			.05						.05										.40	.60					1.70
Minto	Red						.20	.40			.04	.02				.05										*	1.00						1.71
Mott	Cannon Ball							.04				.17							.22					.20		.48	.37						1.48
Napoleon ‖ ‖	Missouri							.05				.05					.20		.05						.10		1.00						1.45
New England	Cannon Ball							.20				.10														.30							0.60
New Salem	Heart						.15	.12	T.		T.					T.	.05								.20	.60	.70	.20					2.02
Orange	Cannon Ball										.10	.20												.20	.10	.10	.30						1.00
Oriska	Sheyenne						.40	.40																		.80							1.60
Park River	Red						.14	.77			.03		.05		.02	.11	.02		T.								.51	.58					2.23
Parshall	Missouri																										.53						0.53
Pembina ‖ ‖	Red							.60	.40																		1.00	.80					2.80
Power	Sheyenne																																
Powers Lake	Missouri						.04	.03	T.		T.	.01	.01						T.						T.	.30	.45	T.					0.84
Steele	Missouri						.24						T.		.06	T.			.06						.38	.55	1.30	.50					3.09
Taylor	Heart						.01	.03				.04	.03													.25	.29						0.65
Towner	Mouse						.10																			.10	.60						0.80
Turtle Lake	Missouri						.10										.20									.30	.50	.10					1.20
University	Red						.53	.24	T.		.04			T.	.11	.01			.01						.01	.06	.65						1.66
Wahpeton ‖ ‖	Red							.10	T.			T.	.04			T.	.06		T.	.05					.05	.03	.74						1.07
Walhalla	Pembina						T.	*	1.20																		*	1.60					2.80
Washburn	Missouri																																
Westhope	Mouse						.20																			.30	.30						0.80
Williston ***	Missouri						.46		T.		T.	.08					.12	T.	T.				T.		T.	T.	.59	.24	.01	T.				1.50
Willow City	Mouse						.20				.10				T.											.10	.40	.70					1.50
Zap	Knife						.03																	T.		.60	T.						0.43
Moorhead, Minn ***	Red						T.	.30				.01	.02		.05	.02	.02		.03						.07	.21	.42	.02					1.17

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1916.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	49	47	55	43	44	30	22	20	22	12	4	2	9	21	35	34	19	10	6	13	12	3	5	2	3	4	5	7	3	18	20	14.0
	Minimum	18	20	24	34	18	15	2	1	3	3	7	19	33	28	2	18	2	7	26	35	34	28	25	13	15	10	10	26	30	16	3	7.2
Amenia §§	Maximum	50	45	54	56	53	36	26	23	17	18	9	1	1	4	19	18	12	0	4	22	9	6	7	2	25	30	0	0	0	4	20	15.4
	Minimum	12	16	16	21	22	13	23	7	2	7	1	6	21	23	22	22	15	22	31	28	33	34	25	17	15	8	0	10	22	26	20	8.8
Ashley	Maximum	50	51	59	50	44	39	33	17	22	18	5	6	6	19	22	31	16	12	9	15	8	5	5	1	5	28	2	8	4	14	12	16.6
	Minimum	18	22	22	25	16	22	17	2	8	1	10	16	27	22	15	15	8	11	34	37	33	20	20	9	12	0	10	19	27	17	10	6.6
Beach	Maximum	54	50	53	60	54	44	22	24	27	29	16	14	14	23	37	37	30	23	5	4	12	2	3	4	4	6	10	10	7	12	14	17.9
	Minimum	14	20	25	22	27	15	4	8	12	12	9	28	31	22	8	16	15	5	20	25	31	22	18	21	10	14	16	18	29	10	6	3.8
Berthold Agency	Maximum	51	41	58	46	49	44	20	....	21	16	10	4	9	31	37	38	25	14	5	16	9	4	2	10	3	8	2	2	1	18	27	[a]18.0
	Minimum	11	16	17	29	10	10	2	....	2	1	17	22	31	21	10	16	8	15	34	44	36	26	24	16	18	18	11	21	37	31	21	[a]11.7
Bismarck	Maximum	52	45	60	46	47	38	24	20	29	14	7	0	6	25	37	32	13	6	18	16	8	3	1	1	2	3	1	9	12	7	20	14.8
	Minimum	17	26	22	27	19	24	8	0	2	4	10	19	24	20	9	13	5	5	26	35	42	34	21	15	18	15	2	9	24	30	19	16	7.7
Bottineau §§	Maximum	40	39	44	40	35	30	25	17	19	9	1	4	9	19	22	10	2	11	17	18	9	2	6	3	2	7	5	8	14	4	14	8.5
	Minimum	10	10	19	27	11	12	17	9	3	1	15	14	26	27	21	14	17	17	37	38	36	33	22	19	17	9	8	19	33	32	16	11.5
Bowbells §§	Maximum	40	39	40	45	37	30	27	15	17	6	0	5	7	4	10	22	18	0	0	5	0	0	5	6	5	1	5	7	0	14	19	11.6
	Minimum	21	23	26	22	14	10	1	1	2	2	16	30	31	29	10	11	18	14	39	41	39	20	18	20	20	17	12	20	28	24	3	11.3
Carson	Maximum	52	57	58	45	46	40	30	20	28	20	10	17	0	24	35	35	24	15	5	5	8	4	3	4	10	0	5	....	0	15	23	[a]19.6
	Minimum	17	27	24	30	16	21	8	1	0	1	10	17	29	24	10	22	10	10	26	33	30	22	18	20	14	10	15	23	27	13	3	6.4
Colgate	Maximum	48	45	47	55	42	32	34	23	16	14	13	0	6	17	20	20	21	8	15	11	8	1	17	0	2	28	12	5	5	10	14	16.2
	Minimum	20	13	18	20	15	10	19	3	3	3	4	10	26	26	26	15	18	21	33	34	32	27	18	8	20	0	10	15	20	18	5	8.1
Crosby	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Devils Lake	Maximum	44	37	54	47	40	28	23	18	19	14	2	7	10	19	16	17	1	6	19	19	13	1	3	2	3	21	5	7	10	10	14	10.4
	Minimum	21	22	22	30	17	15	8	1	6	2	11	21	25	22	17	5	20	33	37	35	30	18	16	17	17	3	11	20	22	15	2	8.7
Dickinson	Maximum	50	54	58	45	45	35	23	20	21	16	9	7	2	23	36	36	25	12	3	10	8	2	2	4	4	2	5	8	5	23	18	17.1
	Minimum	18	24	27	37	12	23	11	2	0	9	7	10	28	24	0	25	0	3	28	30	29	25	21	15	16	9	11	23	32	16	2	4.4
Donnybrook	Maximum	40	41	47	47	41	34	22	17	16	16	10	6	9	20	31	34	12	4	6	16	10	3	0	3	1	1	5	2	11	19	13.5
	Minimum	13	22	29	33	17	20	5	1	2	0	15	27	28	21	13	6	13	20	38	40	33	18	17	18	17	11	11	19	25	10	8	7.8
Dunseith	Maximum	40	36	44	46	40	32	39	23	12	15	20	5	37	28	10	10	4	10	7	7	9	2	5	2	4	12	10	19	28	24	26	16.3
	Minimum	2	3	7	5	3	2	2	7	15	14	20	26	12	14	31	15	29	24	20	22	24	22	25	15	20	7	11	0	11	5	10	12.4
Edgeley	Maximum	50	47	59	52	47	36	35	21	22	13	7	1	8	19	21	34	13	7	14	17	10	1	0	3	8	29	8	4	3	10	17	16.1
	Minimum	21	12	29	25	22	18	20	5	7	2	3	12	23	21	16	11	10	21	33	36	33	24	14	11	11	8	4	17	24	19	9	5.2
Fessenden §§	Maximum	47	43	58	49	43	29	22	18	22	9	7	8	7	20	32	11	0	2	21	17	9	1	1	0	8	14	4	8	6	9	16	11.6
	Minimum	15	3	17	29	11	12	18	0	8	0	15	18	27	26	20	17	18	19	37	42	41	34	22	19	22	14	8	22	31	30	13	12.8
Forman	Maximum	44	53	58	50	47	42	36	24	21	20	13	6	5	12	21	30	11	4	9	19	9	3	0	2	13	31	7	2	9	6	22	16.8
	Minimum	19	23	24	26	17	17	21	6	2	1	2	10	20	20	17	7	10	21	30	36	35	23	17	7	10	4	3	17	26	19	3	5.1
Fullerton	Maximum	50	50	52	52	46	41	32	20	17	13	9	2	6	20	22	32	13	3	14	13	4	0	4	7	12	27	25	6	3	1	15	17.0
	Minimum	20	20	21	24	21	21	18	5	5	3	1	11	22	22	16	10	11	16	34	36	25	14	8	15	13	13	11	16	25	21	6	4.9
Garrison	Maximum	49	41	52	46	43	39	27	17	22	17	4	1	4	2	2	40	35	10	22	16	14	1	0	2	4	1	8	4	10	8	20	11.6
	Minimum	17	19	21	30	15	10	9	2	1	1	18	22	29	27	20	7	10	22	34	43	34	23	21	12	19	8	12	22	29	22	15	10.5
Grafton §§	Maximum	45	39	53	53	43	32	25	19	7	11	2	3	4	17	10	3	8	10	15	12	8	3	2	0	13	24	4	7	4	2	15	11.8
	Minimum	10	11	14	24	16	10	19	5	17	10	6	10	23	22	28	23	10	25	34	32	30	27	15	12	18	14	14	17	18	28	23	11.2
Granville	Maximum	42	48	....	....	....	....	....	....	....	....	....	....	....	52	32	34	28	30	32	15	0	20	0	5	5	15	15	2	0	5	15	18	[a]14.4
	Minimum	24	20	....	....	....	....	....	....	....	....	....	....	....	30	2	10	0	15	28	36	37	30	20	18	15	5	8	18	27	20	10	[a]13.5
Hannah	Maximum	39	40	47	45	37	38	38	28	19	15	10	1	10	16	16	4	7	10	15	16	5	1	0	1	6	14	5	5	8	3	12	10.8
	Minimum	18	21	24	21	14	16	18	11	5	12	21	15	28	28	12	25	28	27	40	41	32	15	16	20	21	12	4	20	19	15	8	10.4
Hansboro	Maximum	42	42	48	46	36	32	27	18	18	10	4	5	10	19	15	10	....	....	10	2	11	2	5	4	6	4	12	6	10	5	18	[b]11.6
	Minimum	20	14	18	28	13	8	10	4	10	4	14	19	27	24	22	40	....	....	40	42	35	20	22	21	26	14	10	28	30	20	2	[b]12.2
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard	Maximum	41	42	49	41	36	30	22	15	11	11	2	2	12	12	33	23	16	6	18	14	15	11	5	5	6	5	5	11	6	12	12	8.9
	Minimum	18	22	26	22	20	17	10	0	0	1	19	21	30	26	10	10	6	18	30	36	34	24	24	14	14	10	16	25	26	23	3	8.8
Jamestown §§	Maximum	50	45	60	52	46	37	23	20	24	12	3	5	12	22	33	20	1	0	20	22	9	0	0	2	15	16	0	3	5	13	14	13.7
	Minimum	12	18	21	21	18	16	20	1	7	6	5	14	26	25	21	17	10	22	37	39	40	34	22	18	19	11	3	14	26	27	18	10.8
Lakota	Maximum	42	37	53	48	38	28	28	22	17	10	6	4	0	18	10	14	4	10	10	20	20	2	3	1	5	23	5	7	10	10	10	10.4
	Minimum	15	15	15	22	10	10	18	0	10	5	7	15	27	25	25	9	10	29	38	37	35	23	20	11	21	5	15	24	26	23	10	11.1
Lamoine	Maximum	42	44	54	45	41	34	26	14	20	15	6	8	18	18	16	30	0	0	20	21	16	3	5	4	8	4	8	15	2	10	10.2
	Minimum	15	11	18	27	16	18	14	2	8	4	14	19	32	27	24	0	21	24	37	45	40	29	25	20	18	8	12	15	29	19	14	11.9
Langdon	Maximum	37	41	47	46	36	28	21	15	12	11	2	5	12	16	15	9	15	21	23	24	18	0	5	5	5	15	3	0	15	15	10	7.8
	Minimum	15	17	14	15	15	10	14	2	10	5	10	16	30	31	29	25	28	28	41	42	34	35	23	22	25	19	3	18	16	23	18	14.0
Larimore §§	Maximum	44	42	55	52	40	30	23	19	16	10	5	5	10	18	13	4	5	13	19	12	11	2	6	3	17	26	3	1	7	9	17	12.2
	Minimum	22	14	20	27	20	13	19	3	8	7	6	10	24	22	23	15	20	22	34	33	30	23	15	11	19	12	1	15	22	22	5	8.4
Lisbon §§	Maximum	46	46	52	55	51	42	36	29	30	25	15	3	15	19	15	6	12	9	11	10	0	3	5	12	10	11	9	10	14	16	....	[a]18.4
	Minimum	24	12	18	22	20	18	12	6	7	6	3	10	22	20	10	12	20	18	31	33	30	26	19	18	21	18	15	17	22	18	10	8.7
McHenry	Maximum	44	42	54	47	44	32	28	21	19	15	11	5	11	20	14	22	4	1	20	25	15	5	3	2	3	24	3	10	11	13	14	11.4
	Minimum	16	27	29	30	13	14	18	2	6	2	10	15	26	26	21	1	18	30	30	42	35	20	10	18	20	20	11	20	22	22	11	9.4
McKinney	Maximum	42	40	51	50	42	31	27	29	20	21	10	8	2	20	12	36	16	5	16	15	5	2	2	0	5	5	3	5	20	23	14	9
	Minimum	20	13	16	30	10	10	9	3	3	0	10	25	26	20	34	10	13	22	35	41	30	17	17	20	22	9	9	16	26	22	1	9.5
Maddock	Maximum	44	36	54	47	39	35	....	....	....	....	....	....	....	20	15	26	7	1	22	19	10	2	1	3	3	13	12	4	9	9	14	[a]12.4
	Minimum	19	18	16	30	15	11	17	2	12	2	20	17	28	24	21	2	22	28	38	44	35	22	22	8	21	8	9	23	28	25	11	11.0
Marmarth	Maximum	53	52	53	41	44	23	22	17	21	17	....	5	0	20	34	37	18	18	4	7	2	3	3	7	3	5	5	9	6	17	17	[a]16.2
	Minimum	18	21	22	20	20	22	3	0	0	5	7	26	29	24	10	14	6	4	25	28	25	18	21	20	10	13	14	21	24	13	8	5.2
Minot §§	Maximum	44	40	58	43	45	30	19	15	17	11	3	3	1	22	37	15	1	3	15	15	10	2	2	2	3	4	2	5	3	15	22	12.5
	Minimum	23	21	22	32	20	11	15	5	6	3	23	24	28	31	17	6	14	15	37	44	44	28	18	19	22	10	9	12	29	29	8	10.5
Mott	Maximum	46	43	50	53	47	36	22	25	23	20	13	23	3	23	36	25	11	5	7	16	20	1	2	8	6	7	5	5	3	10	0	14.2
	Minimum	20	24	27	25	19	10	0	4	5	0	10	0	34	27	7	3	8	21	28	31	31	27	16	20	23	16	30	26	23	33	32	9.6
Napoleon §§	Maximum	50	50	60	48	45	42	20	17	10	10	9	7	5	20	25	30	10	8	10	21	12	0	3	3	8	24	1	7	8	10	12	13.8
	Minimum	13	18	20	24	14	15	20	5	10	13	14	15	29	28	21	30	20	10	41	48	39	23	22	10	20	3	7	24	30	16	6	9.7
New England	Maximum	61	60	61	50	50	48	30	30	30	30	20	12	2	30	40	48	28	20	10	2	5	7	9	12	2	5	5	5	7	21	29	24.8
	Minimum	22	20	24	19	12	10	6	12	5	5	5	19	31	29	10	2	2	10	20	28	28	16	11	16	18	9	18	22	29	19	10	6.4
New Salem	Maximum	52	50	59	43	44	43	37	35	24	18	7	6	5	23	37	30	20	12	15	19	11	0	0	3	1	0	0	11	3	14	20	16.3
	Minimum	19	17	27	27	11	18	11	4	5	0	12	16	28	24	5	5	10	17	33	40	32	22	22	23	20	7	13	24	32	15	11	9.1
Orange	Maximum	54	58	61	45	49	40	33	22	27	24	11	11	4	25	38	39	27	14	2	12	2	4	0	1	0	7	4	8	2	19	25	19.5
	Minimum	12	23	25	22	9	14	13	1	4	9	6	10	32	22	1	23	2	3	24	35	32	26	24	20	15	9	12	21	34	21	16	6.9
Oriska	Maximum	52	43	57	53	46	38	32	28	18	12	10	3	9	18	20	24	18	3	25	23	12	0	1	....	21	31	31	7	10	3	7	[a]15.0
	Minimum	18	18	23	23	28	28	20	6	6	1	5	12	24	24	10	12	12	30	33	32	32	18	15	28	28	28	28	10	18	20	12	8.4
Park River	Maximum	42	35	58	59	39	31	29	22	8	10	11	1	9	17	17	8	2	9	18	14	10	....	....	....	20	25	2	4	8	15	[a]14.3
	Minimum	23	12	20	28	17	14	20	4	12	0	6	10	23	28	22	8	21	23	32	30	33	....	....	....	20	2	14	17	24	5	[d]	7.1
Pembina §§	Maximum	22	18	14	22	28	32	36	20	12	6	4	10	8	4	6	8	6	12	22	14	10	6	4	6	7	22	5	3	5	0	8	3.7
	Minimum	0	2	6	8	4	2	0	4	6	10	12	16	22	18	12	18	14	22	36	32	2	22	30	22	25	20	3	12	20	18	12	14.2
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	43	37	52	43	39	35	34	17	16	16	15	7	11	10	21	21	5	0	22	13	13	0	3	4	4	9	9	8	6	15	15	12.7
	Minimum	18	21	18	30	15	12	15	3	10	4	4	19	28	25	21	5	21	22	36	42	34	23	19	14	21	7	8	31	22	9	6	9.1
Turtle Lake	Maximum	45	45	55	45	43	32	30	15	23	17	7	2	12	23	35	35	15	5	20	20	12	0	1	2	4	0	5	5	10	5	15	13.1
	Minimum	20	18	20	33	20	25	10	2	2	0	11	17	27	22	13	11	13	20	35	41	33	23	6	19	17	6	10	13	27	11	7	6.9
University	Maximum	45	42	51	52	42	32	31	12	9	9	3	3	7	18	22	3	2	12	19	14	9	5	4	0	12	29	13	2	2	5	12	12.4
	Minimum	17	16	15	21	17	11	19	12	14	3	8	21	25	28	22	19	25	30	34	32	32	25	16	21	21	4	12	20	22	21	3	11.2
Wahpeton §§	Maximum	46	49	55	54	39	42	32	33	31	35	9	4	6	20	15	22	15	14	20	18	6	6	10	10	29	32	5	1	0	10	30	19.7
	Minimum	12	15	23	19	18	19	29	7	3	0	2	9	20	21	18	15	11	21	32	33	33	22	21	8	11	10	1	12	19	24	15	6.2
Westhope	Maximum	36	43	42	43	40	39	35	25	21	13	25	5	8	10	21	21	2	1	20	18	6	4	2	3	2	2	5	10	7	10	17	12.2
	Minimum	13	18	19	27	20	13	18	10	1	1	13	19	25	20	12	0	16	27	37	39	32	14	19	21	20	21	15	30	23	20	13	9.7
Williston	Maximum	44	47	52	43	44	29	21	17	18	13	1	1	12	23	35	32	15	7	19	19	13	2	5	2	3	1	1	11	9	13	17	12.0
	Minimum	18	21	26	24	17	15	3	4	1	5	15	21	24	18	0	15	0	20	26	33	30	22	17	12	8	8	11	24	27	24	6	6.7
Willow City	Maximum	40	36	50	44	40	26	24	17	17	9	8	6	9	20	15	10	2	9	15	17	11	3	6	0	5	8	4	9	9	1	14	9.2
	Minimum	10	15	14	22	11	12	17	4	5	4	16	19	26	24	20	2	17	15	37	42	37	23	20	17	21	11	9	21	32	26	16	11.1
Zap	Maximum	50	47	61	48	45	35	25	20	23	12	5	0	7	22	36	35	20	5	15	10	10	2	2	2	3	3	3	8	14	18	18	14.6
	Minimum	10	19	17	33	12	16	13	4	1	8	15	20	31	28	16	18	10	20	30	41	30	25	25	25	18	9	10	24	34	26	13	10.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

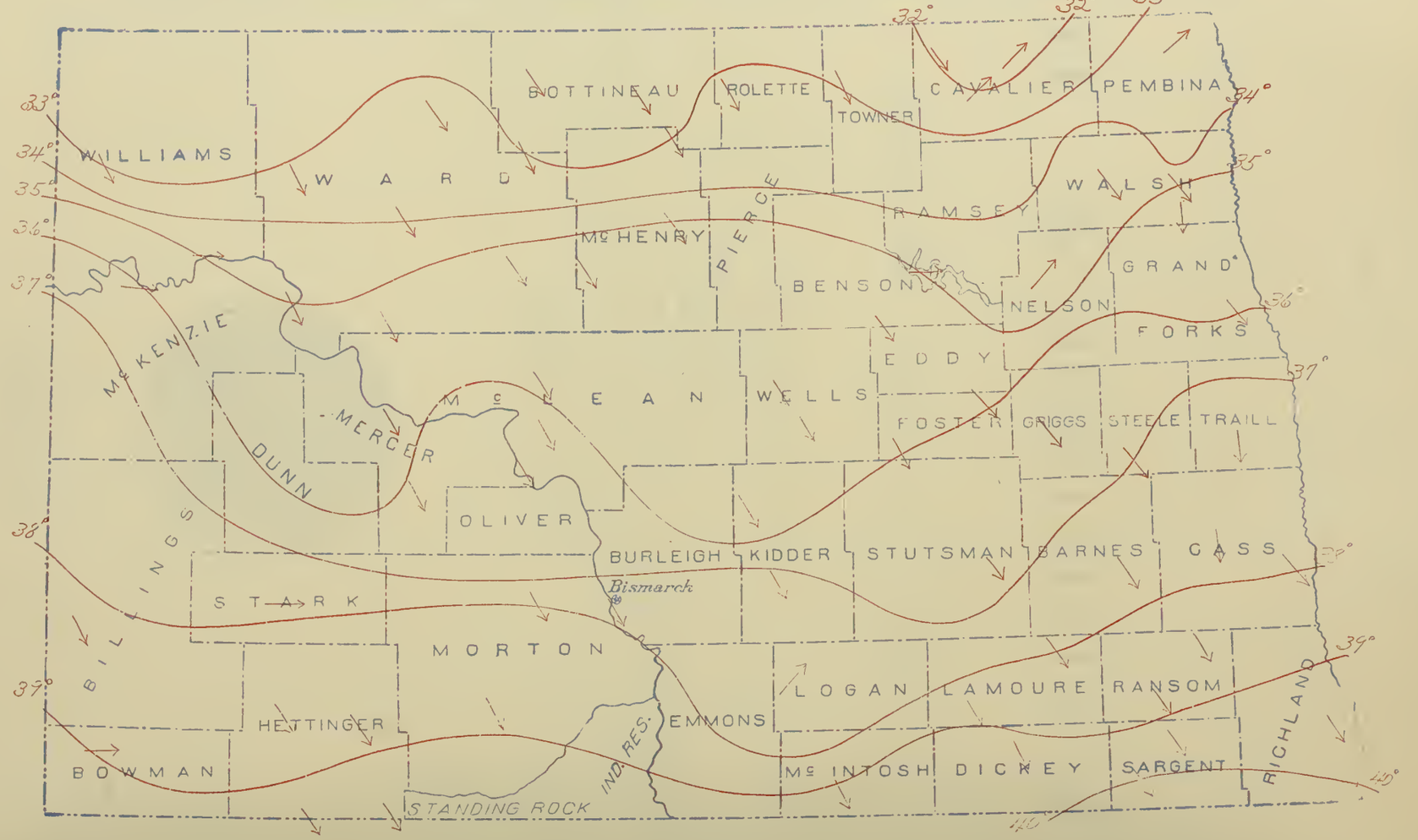
NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1916

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 15, 1917.

MEAN ANNUAL TEMPERATURE AND PREVAILING DIRECTION OF THE WIND FOR THE YEAR 1900



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXV. BISMARCK, N. D., ANNUAL, 1916. No. 13.

GENERAL SUMMARY.

While one of the principal crops of the State was greatly affected by unfavorable weather conditions during July, the weather during the crop season was generally favorable. The year opened with severe weather conditions, the temperature mean being the lowest of record for the month in the climatological history of the State. Spring work was also delayed in March and April by unseasonably low temperatures. Heavy precipitation in some instances in the Red River Valley interfered with farm work. Favorable conditions obtained during May, and fairly good conditions prevailed in June, especially in the latter portion of the month. The hot and humid weather during July was favorable for corn, but damaged wheat to a large extent. The mean temperature for July was the highest of record in the State. Favorable weather followed during August and September, although rains in the latter month interfered somewhat with late harvesting and early threshing. October was mostly too cold and dry for fall plowing, but very favorable for all other outdoor work. Similar conditions prevailed during November. Unusually severe weather obtained during December, the mean temperature being the lowest of record for that month.

The mean annual temperature was 36.0°, or 2.7° below the normal, and 3.6° lower than the mean for 1915. The highest mean annual temperature reported was 40.5° at Forman, Sargent County; the lowest was 32.2° at Langdon, Cavalier County. The highest temperature reported was 105° at Cando, Towner County, on July 28th; the lowest was -56° at Goodall, McKenzie County, on January 12th. The temperature averaged below the normal during nine months in the year, and above the normal in three. During the past twenty-five years the mean annual temperature has been lower but once, 1893 with 35.8°. The highest mean annual temperature was 41.0° in 1900 and 1910. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was -56° at Goodall, McKenzie County, on January 12th of the present year.

The average precipitation for the State was 20.32 inches, or 2.22 inches above the normal, and 0.81 inch more than the average for 1915. The greatest annual precipitation reported was 35.51 inches at Forman, Sargent County; the least was 12.01 inches at McKinney, Renville County. The greatest monthly amount reported was 10.10 inches at Forman, Sargent County, in July; there was none at Bowman, Bowman County, in February, and at Pembina, Pembina County, in November. During the past twenty-five years there have been but four years with more precipitation, and twenty with less. The average snowfall for the year was 56.4 inches. The greatest depth of snowfall reported was 100.3 inches at Hansboro, Towner County; the least was 29.5 inches at McKinney, Renville County. The average number of days with 0.01 inch or more of precipitation was 70. There were 170 clear days, 97 partly cloudy, and 99 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather during January, 1916, will long be remembered, the temperature average being the lowest of record in the climatological history of the State, and the precipitaton (which consisted wholly of snow) was, with a single exception, the heaviest of record. No other January since the climatological service was established in 1892 has combined such low mean temperature, heavy precipitation and large wind movement. Much delay to traffic, both railway and on highways, was experienced. Livestock on the ranges suffered to a large extent, necessitating much housing and feeding of them.

FEBRUARY.—Seasonable weather prevailed throughout the State. The temperature averaged somewhat below the normal, there was a slight deficiency in precipitation, and the wind movement and sunshine were nearly the normal. Towards the close of the month much accumulated snow melted and caused all of the streams tributary to the Missouri River to overflow, and the ice in them to gorge badly. As a result of these conditions much damage was done to railway and wagon bridges, and some livestock was lost. Considerable concern was felt by residents adjacent to the Missouri River during the last days of the month.

MARCH.—The weather of the month was cold, stormy and unfavorable for outdoor work. The temperature averaged below the normal, especially during the first decade, practically all stations reporting temperatures of 20 to 45° below zero. These low temperatures were, however, of great benefit in reducing the danger from floods in the Upper Missouri River and its tributaries. These streams broke up so much earlier than common, and by gorging caused much apprehension during the first days of the month. The cold weather prevented the thick ice in the Missouri River from breaking, with the result that it rose to the highest stage of record for the season of the year, and allowed the flood waters to pass under. The precipitation was, with but one exception, the highest of record for March. Most of the precipitation occurred in the form of snow, causing considerable delay on small branch lines of railways. The wind movement was above, and the sunshine below, the normal.

APRIL.—The weather conditions were generally unfavorable. While the temperature averaged but 2° below the normal, the night temperatures were unseasonably low, being below zero in several parts of the State. The precipitation was nearly the normal, and was quite evenly distributed. As a result of the frequent rains farm work was retarded to quite an extent, and at the close of the month not much seeding was done, except in the eastern portion of the State. Vegetation was quite backward, necessitating the feeding of much roughage to livestock. The sunshine was nearly the normal and there was more than the usual wind movement. Considerable uneasiness prevailed during the first part of the month from the high stage of water in the various rivers and small streams.

MAY.—Generally favorable growing weather prevailed throughout the State. The temperature averaged below the normal, killing frosts being reported as late as the 19th, but as vegetation was backward at the opening of the month the damage was slight. The precipitation was slightly below the normal, and unevenly distributed, being about one-half the normal over the northern portion of the State, nearly normal in the southwestern portion, and double the normal in the southeastern portion. There was slightly less than the usual sunshine, and the wind movement was considerably above the normal.

JUNE.—The weather was generally too cool for best results in crop growth. Small grains did fairly well, excessive stooling being caused by continued low temperatures. This also resulted in much short grain. The mean temperature for the month was, with but one exception, the lowest of record. All stations reported mean temperatures below the normal. The sunshine was also slightly below the average. The rainfall was ample for all needs generally, and too much for best results in the eastern

part of the State. At the close of the month small grains were in good condition, but somewhat late, corn was very backward and flax was coming nicely. Hay and pastures were in excellent condition, and livestock on the ranges were generally fat.

JULY.—Although much damage to wheat was caused by high temperature and excessive precipitation, the weather for the month was generally favorable for crops and for outdoor work. The mean temperature was the highest of record for the month. The average precipitation was above the normal. This hot and humid condition was favorable for the propagation of rust, and wheat suffered to a large extent. On the other hand, conditions were favorable for corn, and at the close of the month that crop was in excellent condition. Pastures and meadows were exceptionally good. Severe hailstorms occurred in many parts of the State and did immense damage. The stage of water in the Missouri River and its tributaries and the Red River of the North was unusually high.

AUGUST.—The weather was generally favorable throughout the State. There was a slight excess in both temperature and precipitation and there was more than the usual sunshine. Occasional light frosts were reported, but no serious damage occurred. There were several severe wind and electrical storms, resulting in considerable property damage and the loss of at least two lives. Exceptionally high winds were reported from the northeast portion of the State, the anemometer at the University of North Dakota (Grand Forks) recording at the rate of seventy-five miles per hour from the west on the 4th. Farm work made good progress and practically all grain, except flax, was cut. Threshing was well started but returns from wheat were poor. Oats and barley generally yielded well. Corn made rapid progress toward maturity and gave promise of a fine crop.

SEPTEMBER.—While rains interfered somewhat with the harvesting of late crops and threshing, the weather was, on the whole, generally favorable for farm and other outdoor work. There was less than the usual amount of fall plowing done, owing to the uneven distribution of rainfall over the State. The temperature averaged slightly below the normal. Considerable damage to corn and late flax was caused by the general freezing temperature which occurred on the 15th. Feed on the ranges was excellent, and livestock were in fine condition at the close of the month.

OCTOBER.—The weather was unusually cold and dry, being favorable for threshing and corn harvesting, but too dry for fall plowing in most parts of the State. There was a slight deficiency in sunshine, and the wind movement was nearly the normal.

NOVEMBER.—The weather was favorable for all outdoor work, except plowing. Small grain threshing was completed in nearly all sections at the close of the month. The ground was mostly too dry for fall plowing in the western and central portions of the State, although considerable was accomplished in the eastern part. Both the temperature and sunshine were considerably above the normal.

DECEMBER.—Unusually severe weather conditions prevailed over the entire State. The temperature averaged more than ten degrees below the normal, and is the lowest of record in the climatological history of the State, covering the period 1891-1916. The precipitation was also exceptionally heavy, being only exceeded during two preceding Decembers (1891 with 1.33 inches, and 1909 with 1.27 inches). All of the precipitation occurred in the form of snow, and, being accompanied in many instances by high winds, caused much suffering to humans and to livestock, and much delay to railway and wagon traffic. The excessive snowfall necessitated the feeding of much roughage to livestock, particularly to cattle.

NOTES.

Tables giving the daily temperature extremes and the daily precipitation, also tables showing the difference between the normals and the monthly averages of temperature and the total monthly amounts of precipitation at the several stations have been published regularly in the monthly report "Climatological Data, North Dakota Section," copies of which will be furnished on application at the Local Office of the United States Weather Bureau, Bismarck, No. Dak.

Indexes to special articles published in the several monthly and annual issues of this Bulletin will be found in the Annual Summary for 1905, and in the Monthly Summary for June, 1909.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Alexander		Sept. 14	Langdon	May 17	Sept. 15
Amenia	May 1	" 29	Larimore	" 11	" 15
Ashley	" 19	" 15	Lisbon	" 11	" 15
Beach	" 17	" 15	McHenry	" 17	" 15
Berthold Agency	" 19	" 15	McKinney	" 17	" 15
Bierman		" 14	McLeod	" 3	" 15
Bismarck	May 16	" 15	Maddock	" 19	" 15
Bottineau	" 17	" 15	Mandan	" 3	" 15
Bowbells	" 17	" 15	Manfred	" 17	" 15
Bowman	" 3	" 17	Marmarth	" 18	" 14
Buford	" 12	" 14	Marstonmoor	" 19	" 15
Cando		" 15	Mayville	" 19	" 15
Carson		" 14	Melville	" 3	" 15
Colgate	May 19	" 15	Minot	" 12	" 15
Cooperstown		" 15	Minto	" 19	" 15
Devils Lake	May 19	" 15	Mott	" 17	" 14
Dickinson	June 8	" 14	Napoleon	" 19	" 15
Donnybrook	May 17	" 15	New England	" 11	" 15
Dunseith	" 12	" 15	New Salem	" 16	" 14
Eckman	June 8	" 15	Orange	" 11	" 14
Edgeley	May 3	" 15	Oriska	" 3	" 15
Energy		" 14	Park River	" 11	" 15
Fessenden	May 19	" 15	Parshall		" 15
Forman	" 3	" 15	Pembina	May 3	" 2
Fullerton	" 2	" 15	Power	" 10	" 12
Garrison	" 12	" 15	Steele	" 1	" 15
Goodall	" 12	" 15	Taylor	" 3	" 15
Grafton	" 19	" 15	Towner	" 19	" 15
Grand Rapids	" 3	" 15	Turtle Lake	" 26	" 15
Granville	" 18	" 15	University	" 3	" 17
Hannah	" 17	" 15	Wahpeton	" 19	" 15
Hansboro	" 19	" 15	Walhalla	" 19	" 15
Hettinger	" 28	" 14	Westhope	" 17	" 15
Hillsboro	" 3	" 29	Williston	" 17	" 14
Howard	" 17	" 14	Willow City	" 19	" 15
Jamestown	" 4	" 15	Zap	" 16	" 14
Lakota	" 19	" 15	Moorhead, Minn.	" 1	" 29
Lamoine	" 19	" 15			

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−0.9	108	−58	18.14	+0.04
1893	35.8	−2.9	112	−54	15.85	−2.25
1894	40.4	+1.7	107	−47	16.10	−2.00
1895	37.8	−0.9	104	−50	19.09	+0.99
1896	37.3	−1.4	107	−42	23.57	+5.47
1897	37.8	−0.9	109	−48	15.88	−2.22
1898	39.1	+0.4	106	−38	15.46	−2.64
1899	36.3	−2.4	109	−48	17.93	−0.17
1900	41.0	+2.3	114	−48	19.05	+0.95
1901	40.4	+1.7	110	−43	18.48	+0.38
1902	39.6	+0.9	106	−39	17.61	−0.49
1903	38.4	−0.3	108	−49	19.30	+1.20
1904	38.0	−0.7	103	−52	19.19	+1.09
1905	39.3	+0.6	107	−46	20.88	+2.78
1906	39.5	+0.8	109	−40	20.53	+2.43
1907	37.0	−1.7	104	−49	14.89	−3.21
1908	40.6	+1.9	104	−41	18.79	+0.69
1909	38.2	−0.5	109	−48	17.77	−0.33
1910	41.0	+2.3	114	−50	12.34	−5.76
1911	38.3	−0.4	108	−43	19.09	+0.99
1912	38.2	−0.5	124	−52	20.50	+2.40
1913	40.1	+1.4	106	−54	14.92	−3.18
1914	40.0	+1.3	109	−47	19.21	+1.11
1915	39.6	+0.9	104	−48	19.51	+1.41
1916	36.0	−2.7	105	−56	20.32	+2.22

Climatological Data for the Year 1916.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).						Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Alexander	McKenzie	.....	.....	.....	98	Aug. 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amenia	Cass	954	21	36.4	95	Aug. 18	−39	Jan. 13	21	22.55	4.29	July	0.01	Oct.	.....	56	211	58	97	nw.
Aplin	Oliver	1,910	10	.....	.....	.....	−51	Jan. 13	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashley	McIntosh	2,001	20	38.0	95	July 28	−44	Jan. 13	20	27.07	6.03	July	0.10	Feb.	51.0	59	.....	.....	.....	nw.
Beach	Golden Valley	2,576	11	38.1	98	Aug. 3	−38	Jan. 11	11	14.32	4.27	June	0.10	Feb.	.....	73	206	95	65	nw.
Berthold Agency	McLean	2,082	23	36.1	95	July 6*	−52	Jan. 13	23	17.87	4.84	June	0.05	Feb.	.....	63	191	86	89	nw.
Bismarck	Burleigh	1,674	42	38.3	97	Aug. 16	−45	Jan. 13	42	17.10	4.03	July	0.13	Nov.	64.9	106	147	114	105	nw.
Bottineau	Bottineau	1,638	25	32.8	99	July 28	−47	Jan. 13	25	16.75	4.75	Aug.	0.24	Feb.*	.....	98	135	111	120	nw.
Bowbells	Burke	1,958	5	32.7	91	Aug. 1*	−48	Jan. 12	5	19.92	4.21	June	0.38	July	.....	62	203	39	124	.....
Bowman	Bowman	.....	3	38.7	99	Sept. 3	−43	Jan. 12	3	17.43	4.66	June	0.00	Feb.	.....	78	194	20	152	.....
Buford	Williams	1,944	38	37.2	95	Aug. 3	−49	Jan. 12	38	15.67	4.99	June	0.26	Apr.	.....	52	.....	.....	.....	.....
Cando	Towner	1,488	15	.....	105	July 28	−48	Jan. 12*	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carson	Grant	2,500	5	.....	98	July 27*	.....	.....	5	18.60	3.46	June	0.25	Feb.	42.8	71	178	118	70	nw.
Colgate	Steele	1,177	2	37.2	95	Sept. 3	−40	Jan. 13	3	26.70	4.91	June	0.25	Nov.	69.0	88	137	125	104	nw.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	2	20.85	5.00	July	0.10	Oct.*	34.0	49	220	99	47	nw.
Devils Lake	Ramsey	1,478	12	34.8	96	July 28	−44	Jan. 12	12	18.26	4.14	June	0.12	Nov.	51.7	106	115	115	136	w.
Dickinson	Stark	2,543	25	37.8	97	Aug. 3*	−44	Jan. 12*	25	18.40	3.77	June	0.32	Feb.	41.2	96	145	79	142	w.
Donnybrook	Ward	1,760	13	34.4	95	Sept. 3	−44	Jan. 12	18	12.78	2.76	June	0.10	Nov.	29.8	56	.....	.....	.....	nw.
Dunseith	Rolette	1,682	21	34.1	96	July 28	−43	Jan. 12*	21	20.23	4.47	Aug.	0.02	Dec.	.....	80	113	159	94	nw.
Eckman	Bottineau	.....	11	33.3	97	July 28	−53	Jan. 13	11	18.60	3.54	July	0.36	Nov.	52.0	68	.....	.....	.....	nw.
Edgeley	LaMoure	1,468	16	38.6	99	July 28	−37	Jan. 13	16	19.83	4.55	May	T.	Nov.	.....	52	.....	.....	.....	nw.
Energy	McLean	.....	.....	.....	.....	.....	.....	.....	4	17.79	5.05	June	0.13	Feb.	.....	78	.....	.....	.....	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	9	17.58	5.81	June	0.25	Oct.	81.5	67	214	73	79	w.
Fessenden	Wells	1,610	5	34.8	98	Aug. 17	−44	Jan. 12	5	17.91	4.00	June	0.22	Nov.	56.3	81	193	102	71	nw.
Forman	Sargent	1,249	25	40.5	99	July 28	−40	Jan. 13	25	35.51	10.10	July	0.07	Nov.	37.0	83	.....	.....	.....	nw.
Fullerton	Dickey	1,439	19	38.8	95	July 26*	−39	Jan. 13	19	29.17	5.94	July	0.19	Feb.*	63.2	67	151	114	101	nw.
Garrison	McLean	1,901	22	35.8	95	July 28*	−47	Jan. 13	22	20.30	5.13	June	0.68	Oct.	63.7	70	.....	.....	.....	nw.
Goodall	McKenzie	2,200	2	35.3	97	Sept. 3	−56	Jan. 12	2	18.09	4.54	June	0.44	Nov.	50.5	50	.....	.....	.....	nw.
Grafton	Walsh	827	25	34.4	98	Aug. 18	−45	Jan. 13	25	16.41	3.47	June	0.01	Nov.	78.1	83	.....	.....	.....	nw.
Grand Rapids	LaMoure	1,321	6	38.0	98	July 28*	−44	Jan. 13*	6	24.47	6.11	July	T.	Feb.	.....	44	202	56	108	nw.
Granville	McHenry	1,504	10	36.3	95	July 28*	−43	Jan. 13	10	17.56	3.75	Aug.	0.22	Nov.	54.0	57	.....	.....	.....	nw.
Hannah	Cavalier	1,568	10	32.3	97	Aug. 18	−54	Jan. 12	12	18.90	5.04	June	0.20	Feb.*	73.0	62	.....	.....	.....	nw.
Hansboro	Towner	1,597	9	33.3	96	July 28*	−43	Jan. 12	9	24.88	4.42	July	0.10	Nov.	100.3	70	.....	.....	.....	nw.
Hettinger	Adams	2,253	9	38.4	98	July 27	−47	Jan. 13	9	16.10	3.04	Mar.	0.15	Oct.	.....	76	181	76	109	nw.
Hillsboro	Traill	901	11	36.7	93	Aug. 18	−39	Jan. 13	11	31.61	5.37	Aug.	0.15	Nov.	70.0	87	174	134	58	nw.
Howard	Williams	2,275	8	33.3	92	Aug. 15	−46	Jan. 12	8	15.96	2.08	Sept.	0.27	Oct.	63.7	50	132	115	119	nw.
Jamestown	Stutsman	1,390	25	36.4	98	July 28	−40	Jan. 13*	25	18.29	3.11	Aug.	0.09	Oct.	36.8	79	141	80	145	nw.
Lakota	Nelson	1,579	16	33.0	93	Aug. 17	−44	Jan. 12*	16	18.07	5.10	July	0.12	Feb.	62.0	82	.....	.....	.....	sw.
Lamoine	Kidder	1,936	9	34.5	98	July 28	−45	Jan. 12*	9	16.99	3.04	Aug.	T.	Apr.*	69.0	44	.....	.....	.....	nw.
Langdon	Cavalier	1,615	21	32.2	98	July 29	−50	Jan. 12	21	18.85	2.65	June	0.04	Nov.	.....	83	198	79	89	sw.
Larimore	Grand Forks	1,134	22	35.6	93	Aug. 18	−39	Jan. 13	22	26.42	8.14	July	0.15	Nov.	68.4	70	168	72	126	.....
Lisbon	Ransom	1,091	13	38.3	96	July 27*	−38	Jan. 14	13	27.75	6.50	July	T.	Oct.*	37.2	65	210	49	107	nw.
McHenry	Foster	1,509	7	35.4	95	July 28	−45	Jan. 12	7	29.74	9.45	July	0.21	Nov.	60.9	55	265	57	44	nw.
McKinney	Renville	1,640	23	35.4	99	Aug. 3*	−47	Jan. 13	23	12.01	3.27	June	0.10	Apr.	29.5	42	.....	.....	.....	nw.
McLeod	Ransom	1,075	4	.....	98	July 28	.....	.....	5	29.45	5.52	June	0.10	Nov.	51.0	72	172	80	114	nw.
Maddock	Benson	.....	2	35.5	95	July 28*	−48	Jan. 12	2	18.26	5.60	July	0.08	Nov.	.....	52	167	78	128	nw.
Mandan	Morton	1,644	3	37.9	98	July 28*	−46	Dec. 28	4	14.96	3.55	July	0.07	Nov.	.....	90	.....	.....	.....	.....
Manfred	Wells	1,605	14	36.2	98	July 28	−41	Jan. 11*	14	18.59	4.55	June	0.23	Nov.	66.8	86	.....	.....	.....	nw.
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	1	16.42	5.76	June	0.06	Feb.	.....	30	.....	.....	.....	.....
Marmarth	Slope	.....	4	37.5	96	July 27*	−45	Jan. 12	8	15.07	3.09	June	0.20	Feb.	47.7	95	.....	.....	.....	w.
Marstonmoor	Stutsman	1,945	7	.....	95	July 28	.....	.....	8	.....	5.07	May	.....	.....	.....	.....	.....	.....	.....	.....
Mayville	Traill	975	21	37.5	96	July 28*	−39	Jan. 13	21	28.85	4.71	June	0.10	Nov.	.....	92	212	54	100	.....
Melville	Foster	1,550	19	36.3	96	July 28	−40	Jan. 12	19	19.20	3.97	May	0.10	Oct.	51.0	44	.....	.....	.....	nw.
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	5	35.18	7.41	July	T.	Nov.	50.1	67	181	88	97	n.
Minot	Ward	1,557	18	36.2	98	July 28*	−47	Jan. 13	21	17.54	3.29	June	0.45	Nov.	68.0	70	109	178	79	nw.
Minto	Walsh	820	24	35.8	96	Aug. 18	−42	Jan. 13	24	16.96	3.15	July	0.17	Nov.	.....	75	186	73	107	n.
Mott	Hettinger	2,424	10	37.8	98	July 27	47	Jan. 12	10	18.17	2.87	June	0.28	Feb.	55.3	69	151	105	110	nw.
Napoleon	Logan	1,955	25	36.4	99	July 28	−48	Dec. 20	25	20.10	3.42	May	0.10	Nov.	54.5	95	153	65	148	sw.
New England	Hettinger	2,400	23	.....	.....	.....	−44	Jan. 12	23	.....	.....	.....	.....	.....	40.5	.....	.....	.....	.....	nw.
New Salem	Morton	2,163	12	37.0	98	Aug. 18	−43	Jan. 13	12	19.56	4.04	June	0.17	Nov.	68.6	96	167	115	84	nw.
Orange	Adams	2,586	8	38.2	98	July 27*	−44	Jan. 13	8	15.02	2.56	June	0.10	Oct.	58.0	46	183	104	79	nw.
Oriska	Barnes	1,270	12	.....	96	July 20	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Park River	Walsh	998	13	36.1	97	Aug. 18	38	Jan. 12*	13	16.47	3.20	June	0.02	Nov.	.....	71	.....	.....	.....	nw.
Parshall	Mountrail	.....	.....	.....	.....	.....	.....	.....	2	14.50	3.09	June	0.20	Nov.	.....	34	.....	.....	.....	nw.
Pembina	Pembina	789	37	33.5	99	July 5*	−44	Jan. 13	43	21.01	3.50	June	0.00	Nov.	.....	77	146	144	76	sw.
Power	Richland	1,020	24	.....	.....	.....	.....	.....	25	.....	5.30	June	.....	.....	.....	.....	.....	.....	.....	.....
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	2	16.93	3.69	June	0.60	Nov.	64.3	70	142	129	95	nw.
Steele	Kidder	1,857	20	39.3	98	July 12	−43	Jan. 11	21	28.68	5.00	June	0.16	Nov.	84.0	100	146	180	40	nw.
Taylor	Stark	2,493	1	.....	94	July 27*	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towner	McHenry	1,482	15	35.5	97	July 28*	−49	Jan. 13	15	21.25	4.12	July	0.30	Nov.	53.0	60	128	145	93	nw.
Turtle Lake	McLean	1,899	5	36.7	95	July 28	47	Jan. 13	5	17.40	5.15	June	0.35	Sep.*	45.0	48	.....	.....	.....	nw.
University	Grand Forks	830	25	35.2	95	Aug. 18	−40	Jan. 13	25	22.62	3.57	Aug.	0.01	Nov.	66.8	109	163	133	70	nw.
Wahpeton	Richland	962	23	.....	96	July 28	−42	Jan. 13	23	28.38	5.74	July	T.	Nov.	.....	85	195	37	134	nw.
Walhalla	Pembina	966	10	.....	97	July 28	.....	.....	10	19.77	3.84	July	0.10	Nov.	83.0	58	.....	.....	.....	.....
Westhope	Bottineau	1,508	11	32.8	96	July 28*	53	Jan. 12	11	15.51	3.10	June	0.24	Nov.	33.0	59	.....	.....	.....	nw.
Williston	Williams	1,875	38	36.2	95	Aug. 3	−42	Jan. 12	38	16.84	4.73	June	0.35	Nov.	38.6	88	104	135	127	w.
Willow City	Bottineau	1,471	25	32.8	97	July 27*	−54	Jan. 13	25	22.37	5.38	Aug.	0.55	Nov.	66.0	77	.....	.....	.....	nw.
Zap	Mercer	1,800	4	36.5	97	Aug. 3*	−50	Jan. 13	4	17.73	5.87	June	0.17	Nov.	37.2	76	145	111	110	nw.
Moorhead, Minn.	Clay	935	36	37.7	95	July 28*	−37	Jan. 13	36	26.29	5.30	July	0.10	Nov.	48.2	114	197	84	85	nw.

* Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1916, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Alexander											3.89		1.67		2.56		1.18		0.74		0.52		0.58			
Amenia	0.80	+0.35	0.15	−0.23	0.32	−0.32	2.90	+0.97	3.28	+0.19	3.65	−0.18	4.29	+0.98	3.51	+0.43	2.54	+0.49	0.01	−1.39	0.05	−0.45	1.05	+0.61	22.55	+1.45
Aplin	1.20		0.30		1.12		2.12		1.38		5.35															
Ashley	1.60	+1.14	0.10	−0.41	1.68	+0.32	1.28	−0.81	4.35	+2.19	4.19	+0.57	6.03	+3.54	4.61	+2.28	0.82	−0.11	0.31	−0.63	0.20	−0.33	1.90	+1.58	27.07	+9.33
Beach	1.43		0.10		0.54		0.89		1.50		4.27		1.49		1.19		1.75		0.64		0.35		0.17		14.32	
Berthold Agency	0.62	+0.21	0.05	−0.62	0.86	−0.10	1.74	+0.66	1.33	−1.42	4.84	+0.72	1.36	−0.62	3.33	+1.60	0.83	−0.65	1.33	+0.41	0.45	−0.09	1.13	+0.74	17.87	+0.84
Bierman															1.64		3.01		1.13		0.33		0.78			
Bismarck	0.81	+0.27	0.39	−0.13	3.27	+2.23	0.65	−1.23	1.95	−0.55	1.50	−2.04	4.03	+1.89	1.97	−0.01	0.70	−0.49	0.18	−0.85	0.13	−0.55	1.52	+0.90	17.10	−0.56
Bottineau	1.08	+0.64	0.24	−0.17	0.46	−0.50	0.93	+0.10	1.07	−1.21	3.05	−0.36	2.36	−0.19	4.75	+2.78	1.13	−0.66	1.08	0.00	0.24	−0.36	0.36	−0.19	16.75	−0.12
Bowbells	3.07		1.25		1.18		1.26		1.37		4.21		0.38		2.77		1.62		1.16		1.12		0.53		19.92	
Bowman	1.20		0.00		0.65		2.27		2.34		4.66		1.85		1.42		1.72		0.65		0.39		0.28		17.43	
Buford	1.51	+1.01	0.42	−0.07	0.30	−0.25	0.26	−0.82	1.79	−0.64	4.99	+2.18	2.06	+0.36	1.70	+0.38	1.20	+0.22	0.52	−0.34	0.27	−6.21	0.65	+0.07	15.67	+1.89
Cando	0.50	+0.10	0.22	−0.04	1.01	+0.25			1.06	−1.77	3.87	−0.09	2.13	−0.76	2.32	−0.21	1.18	−0.32	0.80	+0.06	0.20	−0.30	0.71	+0.33		
Carson	0.50		0.25		2.20		2.16		1.74		3.46		1.14		2.20		2.75		0.50		0.61		1.09		18.60	
Colgate	2.10		0.40		1.80		2.51		4.06		4.91		3.32		3.19		2.60		0.61		0.25		0.95		26.70	
Cooperstown	1.40		0.30		0.50		0.80		3.10		4.60		5.00		3.15		1.00		0.10		0.10		0.80		20.85	
Crosby	1.31		0.45		1.05		1.14																			
Devils Lake	0.71	+0.11	0.32	−0.24	1.09	+0.08	1.09	−0.94	1.47	−0.73	4.14	+0.61	3.70	−0.08	3.16	+0.40	0.89	−0.50	0.67	−0.56	0.12	−0.59	0.90	+0.51	18.26	−1.93
Dickinson	0.80	+0.35	0.32	−0.17	1.19	+0.29	2.71	+1.49	2.19	−0.39	3.77	+0.90	2.46	+0.18	1.77	−0.25	0.73	−0.36	1.10	+0.34	0.38	−0.15	0.98	+0.53	18.40	+2.76
Donnybrook	0.55	+0.20	0.60	−0.05	0.65	−0.24	1.35	+0.50	0.79	−1.78	2.76	−0.06	0.88	−2.08	2.01	−0.33	1.41	−0.61	1.13	+0.23	0.10	−0.53	0.55	+0.01	12.78	−4.74
Dunseith	1.70	+1.24	0.62	+0.17	0.82	−0.16	0.35	−0.38	2.30	+0.61	3.55	+0.53	2.91	+0.50	4.47	+2.24	1.39	−0.26	2.02	+1.30	0.08	−0.27	0.02	−0.37	20.23	+5.15
Eckman	1.28		0.80		0.56		1.20		1.09		2.77		3.54		3.44		0.97		1.29		0.36		1.30		18.60	
Edgeley	0.91	+0.64	0.16	−0.18	1.59	+0.57	1.41	−0.38	4.55	+1.81	2.56	−0.78	3.91	+1.23	2.90	+0.55	0.69	−1.22	0.36	−0.42	T.	−0.38	0.79	+0.34	19.83	+1.78
Energy	0.83		0.13		1.48		0.84		1.39		5.05		2.09		2.33		0.90		1.30		0.20		1.25		17.79	
Epping	1.23		0.68		0.56		1.20		1.90		5.81		0.59		1.69		1.89		0.25		0.42		1.36		17.58	
Fessenden	1.07		0.27		1.93		1.01		1.74		4.00		3.31		1.04		1.04		0.43		0.22		1.85		17.91	
Forman	1.62	+1.11	0.10	−0.33	1.15	+0.23	3.05	+0.84	5.16	+2.26	6.78	+3.41	10.10	+7.18	4.09	+1.12	2.59	+0.77	0.05	−1.31	0.07	−0.44	0.75	+0.26	35.51	*15.10
Fullerton	1.54	+0.89	0.19	−0.54	2.08	+0.77	1.26	−0.65	4.99	+1.78	3.51	+0.38	5.94	+2.67	4.24	+1.32	3.00	+0.71	0.35	−0.88	0.19	−0.49	1.88	+1.02	29.17	+6.98
Garrison	0.84	+0.33	0.75	+0.11	2.83	+1.80	1.20	+0.14	0.93	−1.43	5.13	+1.78	2.27	−0.08	2.14	+0.25	0.96	−0.39	0.68	−0.14	0.70	+0.02	1.87	+1.38	20.30	+3.77
Goodall	3.30		0.75		0.80		1.55		1.40		4.54		0.55		2.11		0.70		0.85		0.44		1.10		18.09	
Grafton	1.76	+1.18	0.57	+0.03	1.28	+0.54	0.54	−0.97	1.24	−0.99	3.47	+0.12	1.40	−1.13	2.48	−0.22	1.26	−0.65	0.79	−0.10	0.01	−0.63	1.61	+1.11	16.41	−1.71
Grand Rapids	1.20		T.		1.80		1.00		3.90		2.45		6.11		3.23		3.35		0.35		0.08		1.00		24.47	
Granville	0.39		0.58		1.50		1.20		0.83		3.12		2.99		3.75		0.86		1.38		0.22		0.68		17.56	
Hannah	2.90		0.20		1.30		0.91		1.61		5.04		2.49		1.31		0.28		1.16		0.20		1.50		18.90	
Hansboro	3.50		1.30		2.30		0.72		1.70		3.03		4.42		1.93		1.80		1.55		0.10		2.53		24.88	
Hettinger	0.59		0.22		3.04		1.85		1.72		2.81		1.76		2.05		0.43		0.15		0.29		1.19		16.10	
Hillsboro	1.95		0.95		1.55		3.35		3.54		3.44		5.07		5.37		3.97		0.33		0.15		1.94		31.61	
Howard	1.30		0.65		1.80		1.09		1.83		1.99		1.42		1.87		2.08		0.27		0.86		0.80		15.96	
Jamestown	1.33	+0.79	0.45	−0.15	2.55	+1.54	0.95	−0.84	2.33	−0.53	2.58	−1.18	2.63	−0.19	3.11	+0.40	1.37	−0.17	0.09	−0.83	0.15	−0.58	0.71	+0.01	18.29	−1.73
Lakota	0.44	−0.38	0.12	−0.53	0.52	−0.09	2.04	+0.40	0.98	−1.52	3.65	+0.15	5.10	+2.19	2.55	+0.08	0.96	−0.11	0.72	−0.13	0.21	−0.57	0.78	−0.15	18.07	−0.66
Lamoine	1.30		0.50		3.00		T.		1.56		2.76		2.07		3.04		0.66		T.		0.20		1.90		16.99	
Langdon	1.70		0.85		1.25		1.22		1.29		2.65		2.49		2.16		1.75		1.05		0.04		2.40		18.85	
Larimore	1.62	+1.12	0.67	+0.34	1.12	+0.29	1.46	−0.06	2.10	−0.28	5.09	+1.64	8.14	+5.11	2.18	−0.80	1.85	+0.20	0.84	−0.47	0.15	−0.23	1.20	+0.81	26.42	+7.67
Lisbon	2.10	+1.53	0.32	−0.27	0.80	+0.12	1.75	−0.34	3.40	−0.37	5.03	+1.03	6.50	+3.15	3.96	+2.04	3.69	+1.61	T.	−1.22	T.	−0.66	0.20	−0.43	27.75	+6.19
McHenry	1.26		0.75		0.85		1.45		2.81		4.70		9.45		4.16		1.54		0.34		0.21		2.22		29.74	
McKinney	0.80	+0.44	0.40	+0.09	0.70	−0.14	0.10	−0.85	0.45	−1.73	3.27	−0.19	0.24	−1.83	2.78	+1.21	1.15	−0.47	1.42	+0.64	0.20	−0.47	0.50	+0.07	12.01	−3.23
McLeod	2.20		0.40		1.15		2.42		4.75		5.52		3.95		3.27		4.36		0.33		0.10		1.00		29.45	
Maddock	0.36		0.17		0.86		0.74		1.17		3.94		5.60		3.47		0.77		0.51		0.08		0.59		18.26	
Mandan	0.28		0.09		1.89		0.93		1.69		2.25		3.55		1.96		0.92		0.27		0.07		1.06		14.96	
Manfred	1.07	+0.39	0.46	−0.06	2.57	+1.84	1.25	+0.01	1.46	−1.26	4.55	+1.12	2.99	+0.53	0.67	−1.75	1.12	−0.31	0.69	−0.19	0.23	−0.53	1.53	+0.67	18.59	+0.46
Manning	1.40		0.06		0.49		2.20		1.93		5.76		1.08		1.72		0.03		1.26		0.30		0.19		16.42	
Marmarth	0.38		0.20		1.02		1.20		1.83		3.09		2.40		2.09		0.58		0.79		0.75		0.74		15.07	
Marstonmoor					1.00		0.52		5.07		3.85		3.03		3.32		1.69		0.35		0.12		0.80			
Mayville	1.66	+1.29	0.79	+0.39	2.37	+1.69	2.50	+0.83	3.70	+0.75	4.71	+1.70	3.87	+0.51	3.35	+0.12	4.31	+1.75	0.14	−1.10	0.10	−0.57	1.35	+0.88	28.85	+8.24
Melville	0.90	+0.55	0.40	+0.05	2.10	+1.48	1.23	+0.21	3.97	+1.37	2.79	−0.63	2.91	+0.08	2.15	0.00	1.35	+0.01	0.10	−0.80	0.30	−0.12	1.00	+0.65	19.20	+2.84
Milnor	2.17		0.15		2.00		2.08		4.50		5.53		7.41		3.58		5.26		0.15		T.		2.35		35.18	
Minot	2.40	+2.03	0.67	+0.17	1.35	+0.60	1.61	+0.35	0.75	−1.36	3.29	+0.05	0.62	−1.34	2.70	+0.46	0.87	−0.79	1.13	+0.16	0.45	−0.18	1.70	+1.33	17.54	+1.48
Minto	1.32	+0.84	0.42	−0.14	1.71	+0.81	0.54	−1.07	1.74	−0.75	2.61	−0.73	3.15	+0.36	1.80	−0.84	1.34	−0.77	0.45	−0.74	0.17	−0.39	1.71	+1.25	16.96	−2.17
Mott	1.38		0.28		2.61		2.56		1.44		2.87		1.01		2.16		1.29		0.65		0.44		1.48		18.17	
Napoleon	0.80	+0.29	0.30	−0.15	2.95	+2.04	1.05	−0.69	3.42	+0.96	3.13	−0.65	2.52	+0.04	3.16	+0.65	1.07	−0.23	0.15	−0.73	0.10	−0.60	1.45	+0.96	20.10	+1.89
New England	1.00	+0.56	0.00	−0.69	1.92	+1.10	1.65	−0.67	2.69	+0.44	2.88	+0.37					1.68	+0.49	0.78	+0.14	0.20	−0.35	0.60	+0.18		
New Salem	1.45	+0.81	0.44	+0.08	2.82	+1.96	0.78	−0.40	1.33	−1.23	4.04	+0.07	2.96	+0.99	2.11	+0.29	0.78	−0.73	0.66	−0.39	0.17	−0.16	2.02	+1.68	19.56	+2.97
Orange	0.20		2.30		1.35		1.77		2.02		2.56		1.14		1.97		0.45		0.10		0.16		1.00		15.02	
Oriska							1.66	−0.03	3.07	−0.07	4.05	+0.99	4.50	+1.42	4.13	+1.48	2.89	+1.35	0.02	−1.04	0.05	−0.56	1.60	+1.18		
Park River	0.92	+0.51	0.20	−0.25	0.81	+0.20	1.07	−0.20	2.20	−0.23	3.20	−0.34	2.01	−0.56	2.01	−0.65	0.99	−0.70	0.81	−0.26	0.02	−0.82	2.23	+1.77	16.47	−1.53
Parshall	0.64		0.37		0.53		1.51		0.83		3.09		1.72		3.05		1.00		1.03		0.20		0.53		14.50	
Pembina	3.00	+2.41	0.80	+0.05	2.52	+1.57	0.32	−1.33	0.58	−2.05	3.50	−0.15	1.96	−0.63	2.25	−0.13	1.22	−0.63	2.06	+0.57	0.00	−0.72	2.80	+1.95	21.01	+0.91
Power	2.00	+1.45	0.25	−0.32			1.37	−0.51	4.29	+1.47	5.30	+1.82	4.55	+1.20			5.64	+3.75								
Powers Lake	1.34		1.55		0.90		1.75		0.72		3.69		1.22		2.05		1.32		0.95		0.60		0.84		16.93	
Ranger	1.12		0.27																							
Steele	1.65	+1.30	0.64	+0.17	4.12	+3.28	1.06	0.00	3.35	+0.96	5.00	+1.67	3.98	+1.32	4.54	+2.26	0.54	−0.66	0.55	−0.17	0.16	−0.43	3.09	+2.71	28.68	*12.41
Taylor					1.55						3.23		2.17		2.00		3.25		0.67		0.48		0.65			
Towner	2.00	+1.58	0.50	+0.02	1.60	+0.59	1.54	+0.29	1.61	−1.30	2.98	−0.89	4.12	+1.58	2.79	+0.42	1.46	−0.58	1.55	+0.44	0.30	−0.20	0.80	+0.51	21.25	+2.46
Turtle Lake	1.10		0.40		1.50		1.05		1.35		5.15		1.95		1.85		0.35		1.15		0.35		1.20		17.40	
University	1.66	+1.14	0.65	+0.15	1.98	+1.25	1.76	−0.33	2.59	+0.03	3.40	−0.13	3.51	+0.92	3.57	+0.94	1.19	−0.81	0.64	−0.64	0.01	−0.72	1.66	+1.16	22.62	+2.96
Wahpeton	1.21	+0.78	0.21	−0.34	1.51	+0.55	3.08	+0.74	3.01	+0.21	4.63	+0.72	5.74	+1.68	4.85	+1.62	3.03	+0.95	0.04	−1.60	T.	−0.67	1.07	+0.64	28.38	+5.28
Walhalla	2.20		0.30		1.30		0.63		1.50		2.18		3.84		2.66		1.13		1.13		0.10		2.80		19.77	
Washburn																										
Westhope	1.30		0.30		0.90		0.85		1.36		3.10		2.08		2.67		0.93		0.98		0.24		0.80		15.51	
Williston	1.17	+0.59	0.39	−0.08	0.80	+0.12	1.31	+0.08	1.61	−0.65	4.73	+1.16	1.14	−0.89	1.95	+0.64	1.26	+0.35	0.63	−0.14	0.35	−0.25	1.50	+0.84	16.84	+1.77
Willow City	2.30	+1.95	0.90	+0.50	1.30	+0.60	1.43	+0.50	1.11	−0.89	3.12	−0.41	2.19	+0.02	5.38	+3.43	1.15	−0.61	1.44	+0.77	0.55	+0.14	1.50	+1.08	22.37	+7.08
Zap	0.54		0.18		1.50		1.46		1.75		5.87		1.57		2.15		0.63		1.28		0.17		0.63		17.73	
Moorhead, Minn.	1.49	+0.78	0.51	−0.22	1.51	+0.37	2.72	+0.39	3.76	+0.81	4.28	+0.15	5.30	+1.56	2.87	−0.23	2.17	−0.13	0.41	−1.66	0.10	−0.88	1.17	+0.43	26.29	+1.37

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace. * indicates plus (+).

Monthly and Annual Mean Temperatures for the Year 1916, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Alexander	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57.4	.....	69.4	.....	[c]65.0	.....	54.0	.....	40.0	.....	29.0	.....	3.4	.....	.....	.....
Amenia	- 3.0	−8.3	3.6	−4.2	20.0	−3.5	38.4	−3.7	50.8	−3.7	57.4	−6.7	74.2	+5.9	[d]67.0	+0.8	55.2	−2.1	40.5	−4.5	29.0	+2.7	3.3	−9.3	36.4	−3.0
Aplin	[d]-0.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashley	- 2.6	−10.3	10.0	+3.5	25.4	+3.3	40.5	−1.2	52.0	−1.5	57.8	−4.8	73.5	+5.2	66.4	+0.3	[e]55.4	−1.5	[a]41.9	−1.8	30.7	+4.7	5.0	- 8.8	38.0	−1.1
Beach	- 4.8	.....	14.2	.....	29.2	.....	41.2	.....	50.0	.....	57.9	.....	70.8	.....	64.6	.....	55.2	.....	41.2	.....	30.8	.....	7.0	.....	38.1	.....
Berthold Agency	- 4.8	−11.5	10.4	+1.1	24.0	−1.0	40.1	−3.4	48.1	−6.2	56.2	−7.1	72.3	+3.4	[b]66.5	−1.6	49.8	−7.8	38.8	−6.8	29.0	+1.5	[a] 3.2	−13.8	36.1	−4.4
Bierman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65.1	.....	55.8	.....	[c]43.0	.....	32.3	.....	[a] 8.0	.....	.....	.....
Bismarck	- 5.0	−11.7	11.8	+3.5	24.7	+2.6	41.0	−1.6	52.8	−2.4	59.2	−5.0	75.0	+4.8	67.4	−0.7	56.8	−0.3	41.8	−2.3	30.6	+4.6	3.6	−11.4	38.3	−1.7
Bottineau	-12.6	−12.5	- 0.4	−2.5	14.2	−3.5	36.6	−2.5	49.8	−1.4	57.3	−0.8	71.7	+6.0	64.0	+0.9	53.8	−1.9	36.6	−5.9	23.8	+1.6	- 1.5	−9.0	32.8	−2.6
Bowbells	-12.2	.....	1.1	.....	13.5	.....	36.2	.....	48.6	.....	55.8	.....	69.4	.....	63.4	.....	52.0	.....	38.4	.....	25.0	.....	0.2	.....	32.7	.....
Bowman	- 2.8	.....	14.8	.....	29.8	.....	41.0	.....	50.4	.....	57.6	.....	[g]72.4	.....	65.8	.....	56.3	.....	41.7	.....	32.0	.....	5.5	.....	38.7	.....
Buford	- 6.1	−11.9	7.0	−3.1	23.8	+0.2	41.6	−1.1	50.8	−3.4	59.3	−5.0	72.6	+3.2	66.0	−0.9	[a]55.4	−0.4	[d]41.8	−1.6	29.8	+3.0	[a] 3.7	−10.3	37.2	−2.6
Cando	-12.0	−12.6	2.2	−1.3	[e]12.9	−8.9	.....	.....	.....	.....	60.2	−0.7	74.6	+10.0	[d]68.2	+6.2	[f]56.5	+1.1	42.3	−1.3	[d]29.4	+4.2	[e] 3.1	−4.8	.....	.....
Carson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41.4	.....	31.6	.....	6.6	.....	.....	.....
Colgate	- 5.2	.....	5.8	.....	21.4	.....	40.0	.....	51.6	.....	59.4	.....	74.4	.....	66.4	.....	57.2	.....	41.6	.....	29.6	.....	4.0	.....	37.2	.....
Crosby	[b]-9.5	.....	6.6	.....	18.0	.....	[c]37.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	- 8.2	−8.5	3.2	−1.3	17.0	−1.5	37.8	−0.4	50.3	−2.4	57.5	−5.1	72.9	+4.8	65.6	+0.5	55.0	−0.6	38.4	−2.1	26.8	+4.2	0.8	- 7.2	34.8	−1.6
Dickinson	- 3.6	−14.0	13.7	+1.8	27.4	+2.7	41.0	−1.7	51.8	−0.8	56.8	−4.8	71.6	+3.7	65.0	−1.6	55.3	−1.3	39.6	−4.6	29.2	+1.9	6.4	−12.0	37.8	−2.6
Donnybrook	- 8.8	−12.4	[c] 3.2	−4.8	17.3	−6.6	39.6	+0.2	[a]49.0	−0.9	56.5	−5.0	70.0	+4.5	63.8	−1.1	53.4	−1.4	[a]38.7	−4.6	27.8	−0.2	2.8	11.5	34.4	−3.6
Dunseith	- 9.8	−13.1	4.0	+0.3	18.2	−0.6	37.7	−2.7	50.2	−2.2	56.0	−5.6	70.4	+6.5	64.5	+1.0	53.8	−1.0	35.0	−7.2	27.6	+2.6	2.0	−7.2	34.1	−2.4
Eckman	-12.2	.....	1.6	.....	[a]14.4	.....	[a]38.5	.....	50.4	.....	53.4	.....	71.0	.....	63.8	.....	[a]53.6	.....	[a]38.6	.....	27.0	.....	- 0.8	.....	33.3	.....
Edgeley	- 1.8	−9.6	12.6	+1.8	24.5	−2.7	41.4	−0.6	52.6	−1.0	58.8	−4.4	73.8	+5.4	66.7	+0.2	56.2	−1.4	41.8	−4.2	31.4	+1.9	5.4	−9.5	38.6	−2.0
Fessenden	- 8.1	.....	5.2	.....	19.9	.....	38.0	.....	50.4	.....	56.7	.....	72.0	.....	65.2	.....	54.4	.....	38.9	.....	26.4	.....	- 0.6	.....	34.8	.....
Forman	- 0.3	−7.2	10.0	+0.3	26.0	+0.4	[a]43.2	−0.7	55.4	−0.1	60.9	−4.7	[c]78.8	+9.6	[a]70.4	+2.8	59.1	0.0	45.2	−0.7	31.8	+4.6	5.8	−9.2	40.5	−0.4
Fullerton	- 2.3	−10.7	10.7	+1.4	25.5	−0.1	41.0	−1.3	52.9	−0.6	59.4	−3.6	77.5	+9.7	67.0	+0.9	55.4	−1.0	41.4	−3.2	31.2	+2.8	6.0	−8.2	38.8	−1.2
Garrison	- 7.6	−14.8	7.5	−1.0	20.4	−1.4	39.8	−2.6	51.0	−2.0	57.5	−5.3	72.6	+4.7	[a]64.2	−1.6	54.6	−2.3	40.6	−3.6	[a]28.6	+3.6	0.6	14.2	35.8	−3.4
Goodall	-11.6	.....	6.9	.....	20.3	.....	39.4	.....	50.6	.....	57.9	.....	72.0	.....	65.4	.....	54.8	.....	40.2	.....	[a]26.8	.....	1.2	.....	35.3	.....
Grafton	- 9.0	−10.4	0.4	−5.5	15.1	−4.1	37.6	−2.4	50.4	−2.8	58.4	−4.9	72.8	+5.4	66.0	+1.7	54.8	−1.1	[a]38.0	−5.2	[a]28.2	+5.7	0.3	−7.9	34.4	−2.6
Grand Rapids	- 3.8	.....	10.0	.....	24.8	.....	40.6	.....	52.6	.....	58.4	.....	74.2	.....	66.8	.....	56.0	.....	41.6	.....	30.7	.....	4.2	.....	38.0	.....
Granville	[b]-8.7	.....	[j]11.8	.....	18.6	.....	39.3	.....	49.5	.....	[e]60.1	.....	73.3	.....	65.4	.....	[f]54.4	.....	41.4	.....	29.8	.....	[j] 0.4	.....	36.3	.....
Hannah	-13.9	.....	[b]-4.9	.....	[d]16.8	.....	33.6	.....	49.2	.....	56.2	.....	70.5	.....	64.6	.....	52.4	.....	35.8	.....	26.6	.....	0.2	.....	32.3	.....
Hansboro	-10.2	.....	2.0	.....	15.1	.....	35.6	.....	50.6	.....	56.4	.....	[j]70.0	.....	[j]63.8	.....	53.0	.....	[f]38.4	.....	25.5	.....	[b]-0.3	.....	33.3	.....
Hettinger	- 4.3	.....	15.4	.....	27.8	.....	40.8	.....	50.1	.....	57.4	.....	73.4	.....	66.4	.....	56.5	.....	41.0	.....	31.2	.....	5.4	.....	38.4	.....
Hillsboro	- 4.8	.....	3.5	.....	19.2	.....	40.1	.....	51.8	.....	59.1	.....	74.0	.....	67.0	.....	56.4	.....	40.8	.....	29.8	.....	3.1	.....	36.7	.....
Howard	-11.8	.....	3.6	.....	15.5	.....	36.7	.....	46.8	.....	[e]56.6	.....	68.9	.....	65.0	.....	52.5	.....	39.5	.....	26.4	.....	0.0	.....	33.3	.....
Jamestown	- 6.3	−13.5	7.1	−1.1	21.3	−1.5	40.2	−2.3	52.9	−1.6	58.4	−5.2	74.9	+6.7	65.8	−0.4	55.2	−1.5	39.2	−6.3	28.1	+1.6	1.4	−13.3	36.4	−3.2
Lakota	- 9.4	−7.9	0.6	−3.4	[a]15.0	−4.9	36.2	−2.4	48.7	−1.4	54.8	−7.3	70.1	+5.1	63.4	+0.4	[d]53.8	−1.2	[b]37.2	−5.1	[a]26.0	+3.6	- 0.4	−10.0	33.0	−2.9
Lamoine	- 7.2	.....	[a] 4.8	.....	19.5	.....	37.0	.....	50.0	.....	56.0	.....	72.0	.....	64.4	.....	55.4	.....	[c]38.4	.....	[c]24.5	.....	- 0.8	.....	34.5	.....
Langdon	-11.4	.....	2.0	.....	12.8	.....	34.1	.....	48.1	.....	55.8	.....	70.1	.....	64.4	.....	53.1	.....	35.5	.....	25.3	.....	- 3.1	.....	32.2	.....
Larimore	- 3.7	−7.0	6.6	+0.9	16.9	−4.3	39.1	−1.0	51.0	−1.7	58.2	−4.4	72.8	+6.6	65.3	+1.3	53.2	−1.7	37.9	−6.5	28.2	+3.8	1.9	−9.6	35.6	−2.0
Lisbon	- 2.0	−7.3	8.2	−1.1	26.0	−1.7	41.9	+0.6	52.9	+0.4	59.6	−3.6	75.0	+7.3	66.6	+0.5	55.6	−2.0	40.0	−4.9	30.5	+0.9	4.8	−10.4	38.3	−1.8
McHenry	- 7.8	.....	4.0	.....	18.9	.....	38.2	.....	51.0	.....	57.2	.....	73.3	.....	66.6	.....	54.8	.....	40.6	.....	27.0	.....	1.0	.....	35.4	.....
McKinney	[c]-9.8	−13.1	7.6	+2.9	16.8	−2.0	39.4	−1.1	51.3	−0.8	57.6	−3.3	70.4	+4.7	64.5	+1.3	56.4	+2.7	40.0	−1.8	28.2	+5.0	2.7	− 8.6	35.4	−1.2
McLeod	- 2.3	.....	7.0	.....	25.0	.....	42.3	.....	54.0	.....	61.8	.....	77.1	.....	68.8	.....	58.2	.....	44.4	.....	.....	.....	.....	.....	.....	.....
Maddock	- 6.8	.....	4.8	.....	18.7	.....	39.6	.....	51.5	.....	57.4	.....	72.0	.....	66.2	.....	55.5	.....	39.6	.....	26.8	.....	[d] 0.7	.....	35.5	.....
Mandan	- 5.8	.....	10.8	.....	23.9	.....	41.3	.....	52.8	.....	[c]59.2	.....	75.0	.....	67.3	.....	56.2	.....	41.1	.....	29.3	.....	3.4	.....	37.9	.....
Manfred	[a]-6.2	−10.1	7.4	−0.2	19.8	−4.4	39.8	−1.0	51.7	+1.0	57.5	−5.1	73.2	+7.1	66.0	+2.3	55.0	−0.6	39.6	−4.2	28.4	+1.0	1.8	−10.6	36.2	−2.1
Marmarth	- 4.4	.....	15.4	.....	[a]29.8	.....	40.4	.....	48.5	.....	55.8	.....	[c]71.4	.....	64.5	.....	[a]54.4	.....	[b]39.0	.....	29.8	.....	5.5	.....	37.5	.....
Marstonmoor	.....	.....	.....	.....	[f]18.4	.....	37.8	.....	50.4	.....	[c]56.6	.....	72.3	.....	[a]64.8	.....	52.2	.....	38.4	.....	[d]25.9	.....	.....	.....	.....	.....
Mayville	- 4.6	−11.2	5.1	−3.3	19.9	−3.3	41.0	−1.7	53.2	−1.9	59.6	−5.7	75.1	+6.0	67.7	+1.7	57.1	+0.6	41.8	−3.4	30.8	+3.0	3.7	−10.2	37.5	−2.4
Melville	[a]-5.6	−12.0	[b] 7.0	−0.2	[b]17.9	−4.9	37.4	−2.5	48.4	−4.3	54.9	−8.2	[b]73.6	+5.9	[a]68.0	+1.9	[d]55.6	−0.6	[c]41.8	−1.9	[b]32.2	+4.7	[c] 4.0	−8.3	36.3	−2.5
Minot	-10.0	−15.8	6.6	−1.7	19.2	−2.0	39.3	−2.2	52.1	−0.2	59.3	−4.0	73.2	+5.2	67.6	+5.4	56.9	−0.1	39.9	−4.5	29.4	+0.6	1.0	−12.7	36.2	−2.7
Minto	- 6.8	−8.6	2.1	−3.8	16.4	−4.7	39.6	−1.0	52.4	−1.0	58.6	−5.3	74.2	+7.1	68.0	+3.4	56.4	0.0	39.4	−3.8	[a]28.6	+4.1	0.6	−10.3	35.8	−2.0
Mott	- 5.7	.....	12.2	.....	26.5	.....	40.1	.....	51.2	.....	60.2	.....	74.9	.....	67.5	.....	55.4	.....	41.0	.....	28.5	.....	2.3	.....	37.8	.....
Napoleon	- 5.6	−11.9	7.4	+0.6	21.8	+0.4	38.8	−2.6	50.9	−1.9	57.2	−8.2	74.6	+6.5	65.5	−0.7	55.6	−1.3	40.1	−1.8	28.8	+3.8	2.0	−11.0	36.4	−2.3
New England	- 6.4	−20.5	11.8	−0.5	29.0	+3.5	39.5	−3.0	49.6	−1.8	56.1	−6.3	.....	.....	.....	.....	[e]54.8	−1.1	41.2	−2.7	31.4	+3.0	9.2	−9.3	.....	.....
New Salem	- 4.6	−13.4	10.6	0.0	22.9	−2.3	38.6	−4.0	51.4	−0.3	56.2	−8.0	73.6	+4.1	66.2	−0.4	54.8	−3.0	40.4	−4.7	30.4	+0.6	3.6	−13.0	37.0	−3.7
Orange	- 3.7	.....	13.8	.....	27.6	.....	38.6	.....	50.0	.....	57.0	.....	73.7	.....	66.4	.....	55.8	.....	41.0	.....	31.6	.....	6.3	.....	38.2	.....
Oriska	.....	.....	.....	.....	.....	.....	41.4	−1.8	51.8	−1.0	60.0	−3.9	75.2	+7.5	67.3	+1.9	56.1	−2.4	41.2	−4.1	31.1	+1.5	3.3	−11.2	.....	.....
Park River	- 7.4	−8.9	4.9	−1.1	[a]16.5	−6.1	[a]41.0	−0.2	[b]51.8	+0.1	58.8	−5.4	73.2	+5.9	67.9	+2.3	[c]55.4	−2.2	[a]39.2	−4.7	28.2	−0.7	[d] 3.6	−9.5	36.1	−2.5
Pembina	- 8.5	−5.8	- 3.8	−5.6	15.2	−0.9	37.4	− 0.1	51.7	−0.7	60.4	−2.3	76.4	+9.0	66.3	+2.4	52.8	−0.8	35.4	−5.4	24.2	+2.0	- 5.2	−11.8	33.5	−1.7
Power	[d]-1.6	−6.5	6.4	−2.6	.....	.....	42.8	+0.6	52.8	−1.7	[i]62.0	−2.3	75.8	+7.1	.....	.....	[a]59.4	+1.1	.....	.....	.....	.....	.....	.....	.....	.....
Steele	- 4.8	−13.7	9.9	+3.1	25.4	+4.7	41.2	−3.0	53.8	−0.1	[a]60.7	−2.0	76.6	+8.0	69.6	+3.3	55.6	−1.8	45.5	+2.0	34.2	+8.2	3.8	−10.6	39.3	− 0.2
Taylor	.....	.....	.....	.....	[b]25.0	.....	40.8	.....	50.1	.....	58.4	.....	[b]73.2	.....	66.6	.....	55.0	.....	41.0	.....	30.2	.....	6.4	.....	.....	.....
Towner	- 9.4	−13.6	4.6	−0.9	16.7	+1.1	39.7	−1.1	51.8	−1.4	58.2	−4.4	72.6	+6.5	66.2	+2.2	56.1	+1.6	40.4	−2.5	27.6	+6.6	1.8	−10.6	35.5	−1.4
Turtle Lake	- 6.0	.....	7.2	.....	21.4	.....	37.8	.....	51.0	.....	57.6	.....	73.4	.....	66.1	.....	57.2	.....	[d]41.5	.....	29.8	.....	3.1	.....	36.7	.....
University	- 5.8	−9.8	1.6	−5.7	16.8	−6.0	38.8	−3.1	51.2	−2.5	58.6	−4.8	73.5	+6.3	65.6	+0.8	54.8	−1.2	38.6	−5.4	27.8	+2.5	0.6	−10.7	35.2	−3.3
Wahpeton	- 0.9	−8.9	8.2	−2.2	21.5	−5.3	41.1	−3.3	52.2	−3.6	60.0	−5.6	75.6	+6.4	67.4	0.0	56.2	−2.5	37.7	−9.1	.....	.....	6.8	−8.7	.....	.....
Walhalla	- 6.6	.....	5.0	.....	[b]17.5	.....	38.0	.....	51.4	.....	[d]58.5	.....	[c]73.6	.....	[i]67.8	.....	56.2	.....	39.6	.....	[a]28.2	.....	.....	.....	.....	.....
Westhope	-14.5	.....	- 1.4	.....	12.7	.....	36.5	.....	52.2	.....	57.2	.....	70.3	.....	63.8	.....	52.5	.....	38.0	.....	25.2	.....	1.2	.....	32.8	.....
Williston	- 8.2	−14.7	7.2	−0.7	22.4	+0.8	40.3	−0.2	50.6	−3.7	58.6	−4.9	71.8	+2.4	64.8	−3.1	54.2	−5.3	40.0	−2.9	29.6	+4.4	2.6	11.0	36.2	− 3.2
Willow City	-12.2	−13.1	- 0.4	−3.8	14.0	−4.1	36.6	−3.6	49.8	−2.1	55.9	−5.9	[a]70.4	+5.0	[e]62.9	−0.9	53.4	−1.0	38.2	−4.0	26.4	+5.6	- 1.0	−10.7	32.8	−3.2
Zap	- 6.4	.....	10.0	.....	23.6	.....	40.0	.....	50.1	.....	57.0	.....	71.6	.....	64.8	.....	55.4	.....	40.6	.....	28.8	.....	2.1	.....	36.5	.....
Moorhead, Minn	- 2.3	−5.0	4.8	−2.2	20.8	−0.6	39.8	−1.6	53.0	−1.8	60.3	−4.0	75.9	+7.2	67.2	+1.3	56.4	−0.2	42.0	−0.8	29.9	+5.5	4.4	− 6.3	37.7	−0.7

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1916, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Alexander	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	†17	94	14	98[e]	3	93	3	71	13	72	† 5	55	3
Amenia	35	21	44	19	51	31	64	†14	84	7	85	30	94	†27	95[c]	18	89	3	74	14	69	3	56	4
Aplin	36[h]	23	55[a]	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashley	36	23	43	19	56	20	69	28	86	6	83	28	95	28	93	18	88[c]	3	75[i]	6	68	3	59	3
Beach	35	†23	48	20	65	19	76	14	86	6	81	† 9	95	27	98	3	97	3	72	†11	75	5	60	4
Berthold Agency	33	21	53	15	56	†11	76	14	72	28	80	9	95	† 6	95[b]	1	79	† 3	63	1	61	† 5	58[a]	3
Bierman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	93	3	92	3	70[i]	27	69	4	55[a]	3
Bismarck	36	21	50	23	59	11	73	14	89	6	82	30	96	28	97	16	93	3	75	6	67	5	60	3
Bottineau	23	21	47	16	44	27	71	14	82	9	78	9	99	28	96	18	93[a]	3	69	13	64	5	44	3
Bowbells	26	22	41	16	40	†11	79	27	80	6	78	9	90	14	91	† 1	91	3	70	13	54	4	46	3
Bowman	40	†22	48	20	65	20	75	14	85	6	83[i]	27	94[g]	15	98[a]	4	99[a]	3	73	17	70	5	55	3
Buford	34	23	47	16	53	11	74	27	83	6	84	27	91	† 6	95	3	92[a]	3	74[d]	13	72	5	53[a]	3
Cando	20[e]	19	40	†15	44[e]	9	.....	.....	81[a]	5	84	†10	105[a]	28	100[c]	14	95[f]	4	83	14	65[e]	5	52[f]	3
Carson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76	† 5	98	27	98	† 6	93	3	85	1	65	† 3	58[a]	3
Colgate	29	21	41	23	49	28	64	†15	87	7	80	9	92	†10	90	17	95	3	78	14	70	3	55	4
Crosby	24[b]	23	39	15	47	27	70[c]	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	27	21	39	16	46	27	70	14	83	7	78	30	96	28	93	18	92	3	73	6	59	3	54	3
Dickinson	39	23	52	20	63	†19	74	14	84	6	84	27	96	27	97	3	97	3	71	6	66	† 4	58	3
Donnybrook	31	24	36[f]	23	44	27	72[h]	14	80[a]	9	78	27	90	14	91	† 1	95	3	71[a]	13	65	5	47	† 3
Dunseith	19	20	45	†14	46	25	70	22	78	6	76	16	96	28	95	18	90	3	67	† 6	59	2	46	4
Eckman	21	†21	50	14	43[a]	27	73[a]	14	84	† 6	82	13	97	28	96	18	95[a]	3	73[a]	13	70	5	58	4
Edgeley	34	21	51	15	55	20	70	28	90	7	81	30	99	28	97	18	89	3	73	6	69	3	59	3
Fessenden	33	21	43	23	47	27	72	14	84	9	80	30	97	28	98	17	94	3	77	6	68	5	58	3
Forman	36	21	42	19	54	†27	72[a]	28	95	7	86	30	99[b]	28	97[a]	18	91	3	73	† 6	66	3	58	3
Fullerton	32	†21	47	23	56	26	70	28	91	7	84	30	95	†26	94	18	86	3	69	14	68	3	52	† 3
Garrison	28	21	38	15	49	27	72	27	91	9	79	27	95	28	94[a]	† 3	95	3	73	† 6	67[a]	5	52	3
Goodall	25	† 8	40	†15	47	27	75	14	80	† 5	80	27	93	14	95	3	97	3	75	13	69[a]	5	55	3
Grafton	25	20	44	16	50	18	68	14	80	7	82	30	96	28	98	18	91	3	73[a]	6	64[a]	3	53	† 3
Grand Rapids	33	21	49	23	56[c]	27	70	14	88	6	84	30	98	28	98	18	89	3	78	3	69	3	58	3
Granville	22[b]	† 9	35[n]	†22	47	27	71	14	80	5	92[c]	27	95	28	95	18	93[f]	3	74	13	67	5	52	.....
Hannah	16	21	40[c]	16	40[d]	30	67	28	78	5	76	†27	96	28	97	18	83	† 3	70	6	59	5	47	3
Hansboro	25	21	41	17	38	30	67	28	82	7	78	13	96[b]	28	96[b]	18	91	3	68[f]	13	60	5	48[b]	3
Hettinger	49	24	54	21	67	27	71	14	84	6	82	†17	98	27	95	3	95	3	74	6	69	5	59	3
Hillsboro	27	†20	41	16	46	31	65	28	82	7	81	31	92	28	93	18	87	3	69	† 6	63	3	52	4
Howard	30	24	37	15	39	26	73	14	78	6	80[m]	27	90	† 6	92	15	82	9	72	†12	65	5	49	3
Jamestown	32	21	48	23	54	27	70	28	85	† 4	82	30	98	28	97	18	90	3	75	6	68	3	60	3
Lakota	20	†19	37	15	41[a]	27	65	14	77	7	76	13	90	28	93	17	90[h]	3	71[d]	6	64[a]	1	53	3
Lamoine	32	21	45[a]	20	46[a]	27	70	14	84	9	79	30	98	28	94	† 3	91	3	72[c]	† 6	67[e]	6	54	3
Langdon	20	20	39	16	40	31	66	28	80	7	77	†27	98	29	95	18	89	3	70	6	59	5	47	3
Larimore	27	21	45	24	42	27	69	11	81	† 5	80	30	91	28	93	18	90	3	70	6	63	3	55	3
Lisbon	18	† 4	48	22	48	20	70	10	93	6	85	30	96	†27	94	18	90[a]	3	62	4	75	7	55[a]	4
McHenry	26	21	39	†16	45	†27	68	14	84	† 7	79	30	95	28	94	18	91	3	72	6	60	3	54	3
McKinney	30[c]	19	46	16	47	9	73	14	84	9	82	26	98	† 5	99	† 3	93	3	75	†12	67	5	51	3
McLeod	33	21	44	19	55	29	73	28	85	7	85	30	98	28	94	17	88	3	72	† 6	68	3	52[a]	4
Maddock	26	21	40	15	46	† 8	70	†14	84	9	77	†13	95	†28	95	18	93	3	80	1	63	5	54[c]	3
Mandan	34	21	50	23	59[a]	11	73[a]	14	88[a]	6	79[i]	†13	98[a]	28	98[a]	3	94	3	74	6	68	5	60[a]	3
Manfred	27[a]	21	40	23	45	27	72	14	85	9	78	† 9	98	28	97	18	94	3	72	6	68	5	54	3
Marmarth	42	23	45	†20	63[a]	20	71	14	81	6	80	†17	96[b]	27	96	3	94[a]	3	69[d]	13	74	5	53[a]	† 1
Marstonmoor	.....	.....	.....	.....	50[b]	27	71	14	86	9	79[e]	30	95	28	93[a]	17	91[b]	3	76	6	73[b]	2	.....	.....
Mayville	30	21	41	†16	45	31	67	†14	84	7	82	30	96	28	96	18	90	3	71	† 6	65	3	55	3
Melville	25[a]	†21	45[b]	15	42[a]	†27	60[b]	†14	76	† 5	78[b]	30	96[b]	28	94[b]	† 3	90[d]	2	76[c]	6	62[b]	6	58[b]	3
Minot	32	23	45	15	49	27	76	28	93	9	84	13	98	28	96[a]	18	98	3	76	13	70	5	53	3
Minto	24	21	44	23	48	31	69	14	82	7	82	†10	95	28	96	18	92	3	71	† 1	63[a]	5	50	4
Mott	40	23	51	19	63	27	77	13	83	6	83	†27	98	27	93	† 1	95	3	78	6	67	2	53	4
Napoleon	40	23	48	23	60	27	70	14	88	6	86	30	99	28	96	18	90	3	76	6	67	† 3	60	3
New England	45	24	48	19	64	20	73	14	85	6	85	28	.....	.....	.....	.....	84[c]	† 8	74	13	70	1	61	† 1
New Salem	37	23	47	†18	58	†11	72	14	87	6	78	30	96	28	98	18	95	3	75	12	65	† 3	59	3
Orange	40	† 9	52	19	69	27	70	14	87	9	81	27	98	27	98	18	94	3	75	6	66	5	61	3
Oriska	.....	.....	.....	.....	.....	.....	79	28	87	7	87	30	96	20	95	18	89	3	71	† 6	72	4	57	3
Park River	27[a]	24	41	†16	44[a]	31	69[a]	14	80	† 5	80	30	96	28	97	18	84[c]	19	76[a]	6	60	5	59[4]	4
Pembina	30	27	34	17	48	31	74	27	81	† 5	88	30	99	† 5	99	18	92	3	74	6	56	18	36	7
Power	36[e]	19	46[a]	15	.....	.....	59[m]	28	78[j]	29	79[i]	19	101	18	.....	.....	95[a]	6	.....	.....	.....	.....	.....	.....
Steele	35	21	41	†22	55	20	65	†17	80[a]	4	76[a]	†27	98	12	97	18	90	3	70	13	63	3	53	3
Taylor	.....	.....	.....	.....	61[e]	27	75	27	84	9	89	26	94[b]	27	94	4	94	3	69	6	64	5	56	4
Towner	24	21	39	15	44	27	73	14	84	9	77	† 9	97	28	97	18	93	3	75	1	69	6	52	3
Turtle Lake	35	24	45	15	51	11	72	14	84	9	80	27	95	28	94	18	93	4	73[i]	6	66	5	55	3
University	29	21	38	16	48	31	68	14	84	7	81	30	93	28	95	18	89	3	70	6	64	3	51	3
Wahpeton	33	21	42	17	51	29	73	28	89	7	87	30	96	28	94	18	88	3	76	3	.....	.....	55	3
Walhalla	34	21	47	16	44[b]	31	68	†14	82	7	84[d]	30	97[a]	28	96[i]	† 3	94	3	80	1	62[f]	† 3	.....	.....
Westhope	18	21	41	16	44[a]	26	70	14	82	8	78	† 9	96	28	96	18	94	3	70	13	66	7	43	† 2
Williston	33	23	45	15	51	11	75	14	83	6	80	27	92	13	95	3	90	3	72	13	70	5	52	3
Willow City	19	20	37	15	44	30	70	14	80	9	78	27	97[a]	27	97	18	93	3	70	13	66	5	50	3
Zap	33	23	47	19	57	11	76	14	85	9	83	27	93	28	97	3	97	3	73	13	67	5	61	3
Moorhead, Minn	31	9	40	16	49	31	70	28	85	7	84	30	95	28	95	18	90	3	73	3	65	3	53	4

† Occurred on other dates also.

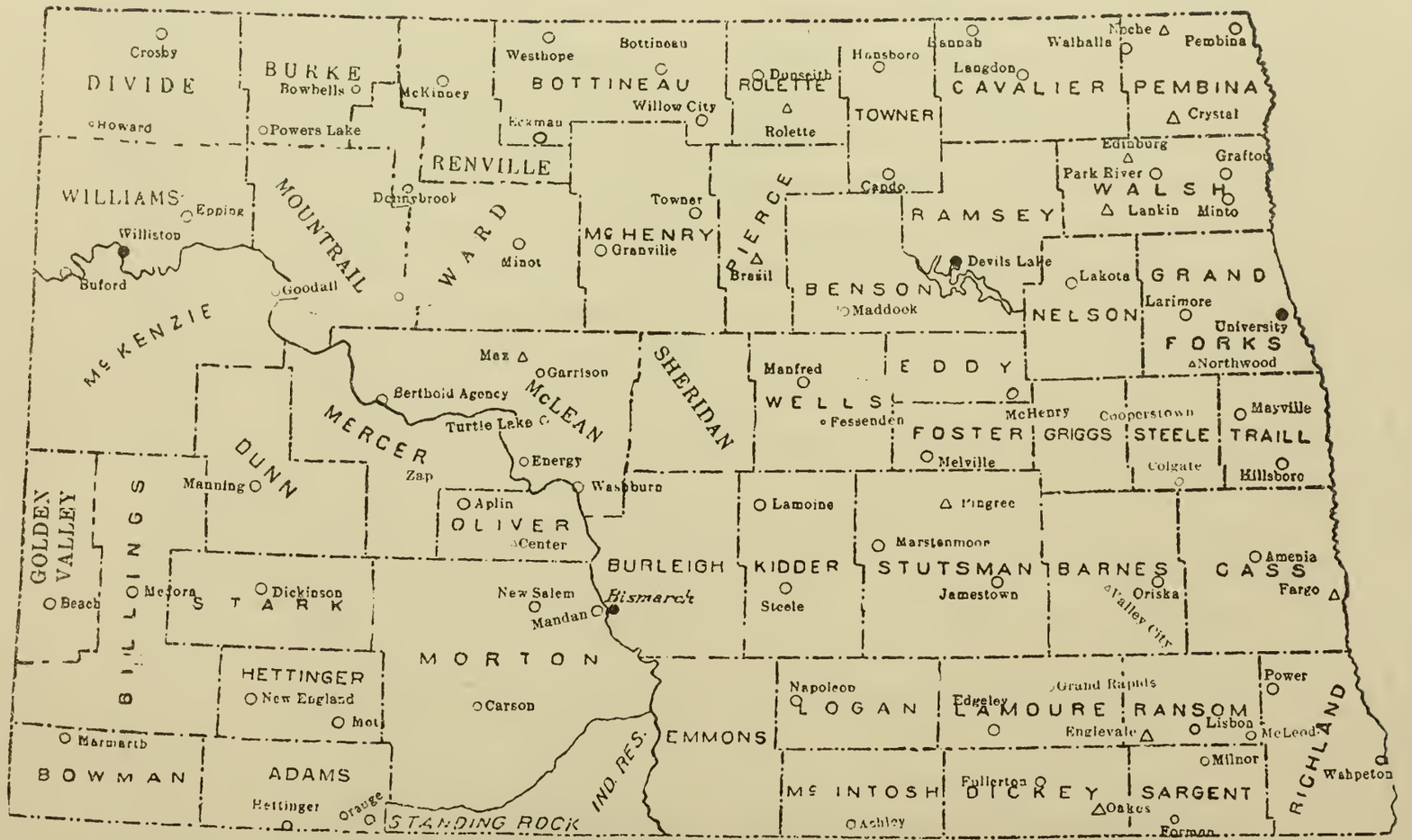
[a] indicates 1 day missing, [b] 2 days, etc.

Monthly Minimum Temperatures for the Year 1916, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Alexander	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34	2	33	23	32[c]	27	20	22	12	20	− 9	12	−35	20
Amenia	−39	13	−31	13	−20	2	6	6	19	1	38	5	49	24	37	26	26	29	15	20	− 3	14	−34	22
Aplin	−51[i]	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashley	−44	13	−27	13	−22	2	12	6	22	1	38	4	48	24	36	13	24[e]	15	10[a]	20	− 5	13	−37	20
Beach	−38	11	−21	2	−20	2	15	15	21	2	29	2	42	20	36	29	21	22	14	19	−10	†12	−31	†13
Berthold Agency	−52	13	−34	7	−25	2	13	8	21	† 1	34	† 2	39	24	33	26	21	15	13	20	− 9[a]	13	− 44[a]	20
Bierman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43	11	29	28	12	19	− 7	13	−27[a]	20
Bismarck	−45	13	−25	7	−23	2	16	6	25	1	38	2	50	24	40	13	24	15	13	20	− 5	13	−42	20
Bottineau	−47	13	−35	7	−31	2	6	5	21	1	32	2	44	24	34	11	17	15	9	20	−11	13	− 38	20
Bowbells	−48	12	−28	† 7	−34	1	2	5	21	1	35	† 2	42	24	35	29	21	15	12	20	− 8	12	−41	20
Bowman	−43	12	−23	4	−17	2	17	8	26	† 2	33	7	45[g]	19	38	27	28	†17	15	19	−13	13	−32	13
Buford	−49	12	−31	7	−30	2	12	5	24[a]	1	35	2	51	†20	38	†11	24[a]	28	15[d]	20	− 9	12	−35[a]	21
Cando	−48[e]	†12	−35	† 7	−45[e]	1	.....	.....	.....	.....	29	4	38	24	30[d]	26	19[f]	16	− 2	20	− 8[b]	13	−40	20
Carson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	20	− 8	13	−33	20
Colgate	−40	13	−35	13	−19	2	7	6	21	3	35	2	45	24	35	26	25	29	10	20	− 6	25	− 34	20
Crosby	−43[b]	12	−25	11	−30	3	10[g]	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake	−44	12	−29	7	−27	1	10	5	24	1	37	4	47	24	39	26	24	15	6	20	− 4	13	−37	19
Dickinson	−44	†12	−22	† 3	−29	2	14	8	20	1	32	8	42	19	33	27	22	15	15	20	− 8	13	−32	29
Donnybrook	−44	12	−28	8	−27	1	9[e]	8	22[a]	1	32	2	41	24	35	27	17	15	12[a]	20	− 9	12	−40	20
Dunseith	−43	†12	−33	7	−30	1	2	5	22	12	31	2	46	24	35	13	17	15	18	† 9	− 5	23	−31	15
Eckman	−53	13	−37	9	−34[a]	1	8[a]	5	21	12	31	† 4	47	25	31	†26	16[a]	15	10[a]	20	− 6	†13	−45	19
Edgeley	−37	13	−26	7	−20	2	13	6	20	1	35	4	44	24	38	26	26	15	10	20	− 4	†13	− 36	20
Fessenden	−44	12	−31	7	−20	† 1	13	† 5	23	1	33	2	42	24	33	13	21	15	4	20	−12	13	−42	20
Forman	−40	13	−30	7	−20	2	12[a]	6	23	1	41	2	60	1	46[a]	13	30	15	18	20	1	13	− 36	20
Fullerton	−39	13	−24	7	−19	2	13	6	22	2	40	19	61	†12	41	†13	26	15	12	20	− 3	13	−36	20
Garrison	−47	13	−32	7	−27	2	13	8	22	2	35	2	46	24	35[a]	27	19	15	8	20	− 8[a]	†12	− 43	20
Goodall	−56	12	−30	7	−26	2	15	† 6	22	1	36	2	48	24	37	27	25	15	11	20	− 7[a]	13	−42	†20
Grafton	−45	13	−39	13	−28	2	2	6	21	3	34	† 2	46	24	34	27	22	17	7[a]	20	− 7[a]	25	−34	19
Grand Rapids	−44	13	−34	13	− 20	2	18	8	23	3	35	4	45	23	36	13	26	15	8	20	− 7	13	−44	20
Granville	−43[a]	13	−28	8	−24	1	10	5	25	† 1	35[c]	7	50	25	35	†26	20[f]	15	12	20	− 4	13	−37[j]	20
Hannah	−54	12	−37[j]	† 7	−12[d]	8	− 6	8	22	1	29	4	37	23	34	27	20	15	− 2	20	− 7	13	−41	20
Hansboro	−43	12	−34	13	−30	1	− 6	6	22	1	32	† 2	37[c]	26	32[b]	26	20	15	17[f]	10	−10	25	−42[b]	20
Hettinger	−47	13	− 22	5	−23	2	10	8	24	11	33	8	45	19	37	27	20	15	9	20	−10	13	− 33	13
Hillsboro	−39	13	−38	13	−22	2	8	6	20	1	38	2	49	24	39	26	28	29	15	20	− 3	13	−32	19
Howard	−46	12	−30	7	−33	2	4	5	19	1	32	6	43	2	34	11	22	22	16	20	−10	12	− 36	20
Jamestown	−40	13	−28	13	−20	2	13	† 2	22	1	37	2	37	24	39	13	25	15	6	20	− 9	13	−40	21
Lakota	−44	†12	−34	13	−26[a]	2	10	† 6	23	1	32	4	43	25	34	26	24	15	1	20	− 7[a]	13	−38	19
Lamoine	−45	†12	−32[a]	7	−28[b]	2	6	8	18	1	31	2	46	24	37	27	17	15	5[e]	20	− 9[e]	†12	−45	20
Langdon	−50	12	−36	7	−36	† 1	1	5	23	1	31	4	40	24	35	26	23	15	− 2	20	− 9	13	−42	20
Larimore	−39	13	−33	13	−23	† 1	3	6	24	3	35	2	46	24	38	13	28	29	9	20	− 4	14	−34	19
Lisbon	−38	14	−30	13	−19	2	10	6	21	1	38	2	45	25	37	13	27	†15	17	27	− 3	†13	− 33	20
McHenry	−45	12	−32	7	−26	2	11	† 6	23	1	34	6	49	23	37	†26	24	15	5	19	− 8	13	−42	20
McKinney	−47[c]	13	−32	12	−34	1	8	5	23	1	32	† 4	38	24	34	27	18	15	10	19	− 5	12	−41	20
McLeod	−41	13	−31	13	−21	2	16	8	21	1	41	2	54	24	40	11	30	15	16	20	.....	.....	.....	.....
Maddock	−48	12	−33	13	−25	† 1	9	8	21	1	32	† 2	42	24	35	†13	20	†15	0	20	− 9	12	−44	20
Mandan	−43	†13	−25	† 7	−26	2	15	† 6	23	1	38[a]	2	50	24	40	13	23	15	12	20	− 7	13	−46	28
Manfred	−41[a]	†11	−30	7	−20	† 1	13	8	25	† 1	37	2	45	24	34	26	22	15	5	20	− 7	12	−40	19
Marmarth	−45	12	−21	† 3	−15[a]	† 2	16	8	24[a]	8	33	2	45[d]	† 4	38[a]	27	24[a]	22	12[b]	23	−18	13	−29	13
Marstonmoor	.....	.....	.....	.....	−37[d]	2	10	6	16	1	33	2	45	24	31[a]	27	19[c]	15	0	20	−15[i]	18	−50	20
Mayville	−39	13	−36	13	−20	2	8	6	21	1	36	2	47	24	37	26	29	†15	11	20	− 7	25	−33	19
Melville	−40[a]	12	−25	7	−18[e]	1	10[e]	6	25	1	40	19	36[c]	26	26[a]	26	22[f]	†15	14[c]	20	−18[b]	13	−37[c]	†19
Minot	−47	13	−32	13	−23	2	14	8	26	† 1	34	8	41	24	40	27	15	15	14	20	− 4	13	−44	†20
Minto	−42	13	−36	13	−29	1	5	6	27	† 1	33	2	45	24	35	26	25	17	2	20	− 4[a]	†13	−34	†19
Mott	−47	12	−28	3	−28	2	12	7	25	11	34	8	44	19	36	27	21	15	10	20	−10	13	−34	†13
Napoleon	−46	12	−28	7	−27	2	10	6	17	1	35	4	46	24	35	13	20	15	5	20	−10	13	−48	20
New England	−44	12	−23	† 5	−24	2	13	6	15	2	31	6	.....	.....	.....	.....	24[e]	15	7	20	− 8	11	− 31	13
New Salem	−43	13	−26	7	−28	2	9	† 6	20	1	35	† 2	45	24	37	12	23	15	11	20	−11	13	−40	20
Orange	−44	13	−23	5	−25	2	11	8	23	1	32	8	46	19	36	27	21	15	7	20	−12	13	− 35	20
Oriska	.....	.....	.....	.....	.....	.....	9	6	21	1	35	3	45	23	38	26	27	15	12	20	− 6	12	− 33	19
Park River	−38	†12	−33	6	−23[a]	1	8[a]	6	28[d]	11	36	† 2	42	24	37	26	28[e]	†15	11[a]	20	− 6	25	−33[i]	21
Pembina	−44	13	−30	4	−30	2	0	5	28	3	36	† 4	51	†24	38	13	26	†15	6	21	− 6	13	−36	19
Park River	−38	†12	−33	6	−23[a]	1	8[a]	6	28[d]	11	36	† 2	42	24	37	26	28[e]	†15	11[a]	20	− 6	25	−33[i]	21
Power	−40[d]	13	− 33	12	.....	.....	28[b]	30	29	10	40[i]	20	50	1	.....	.....	30[a]	12	.....	.....	.....	.....	.....	.....
Steele	−43	11	−25	7	−15	1	20	† 5	30	1	47[a]	6	57	24	48	†13	26	†15	20	18	− 7	12	−42	20
Taylor	.....	.....	.....	.....	−27[b]	2	14	8	23	2	35	14	49	22	39	27	25	15	11	20	1	14	− 28	20
Towner	−49	13	−31	† 7	−30	1	8	5	23	2	37	2	42	24	33	27	20	15	12	19	− 5	13	−42	20
Turtle Lake	−47	13	−22	13	−24	2	13	† 6	25	1	37	† 2	50	25	38	27	20	15	10[d]	18	− 5	13	− 41	20
University	−40	13	−36	13	−26	1	8	6	25	3	35	2	48	24	34	26	28	17	9	20	− 2	†13	−34	19
Wahpeton	−42	13	−32	13	−26	2	8	9	28	† 1	40	† 2	51	†24	39	26	27	29	15	20	− 1	†14	−33	†20
Walhalla	−39	12	−28	13	−31[e]	1	− 1	6	23	3	34[d]	2	47[b]	25	36[b]	†13	23	17	5	20	−10[f]	25	.....	.....
Westhope	−53	12	−37	10	−35	1	4	5	26	†12	36	† 1	45	24	37	†26	18	15	13	20	− 4	†13	−39	20
Williston	−42	12	−25	7	−25	1	14	5	23	1	37	2	51	5	39	27	28	22	20	9	− 5	13	−33	20
Willow City	−54	13	−37	7	−37	1	3	5	22	17	33	2	40[a]	24	34[f]	26	16	15	11	20	− 4	13	−42	20
Zap	−50	13	−30	7	−30	2	10	8	20	2	34	† 2	46	†20	34	27	19	15	12	20	−11	13	−41	20
Moorhead, Minn	−37	13	−30	13	−24	2	10	6	25	1	40	2	53	24	42	26	29	29	16	20	0	14	−31	21

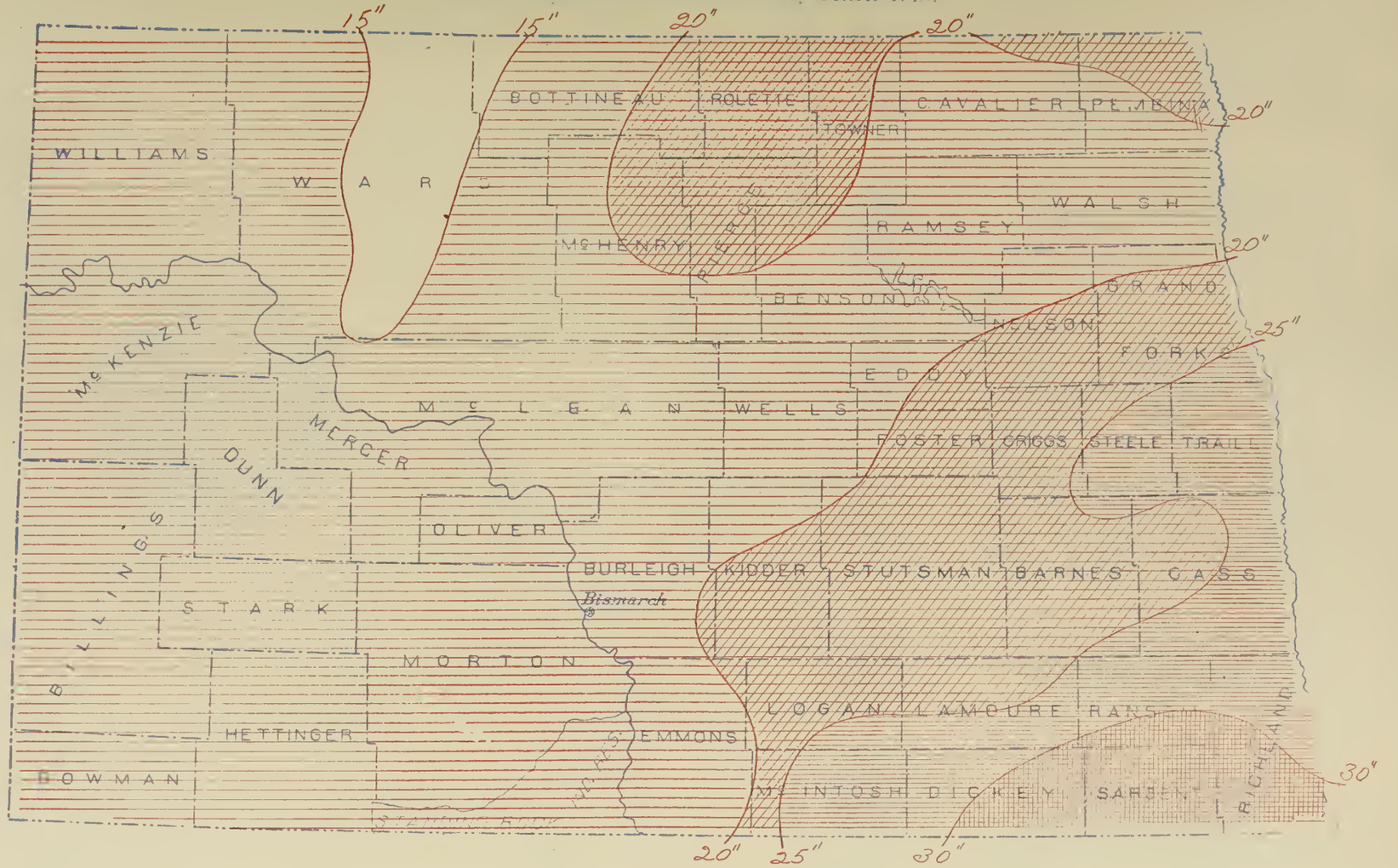
† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days missing, etc.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

TOTAL PRECIPITATION FOR THE YEAR 1916.



Scale of Shades, in inches:

Less than 15 | 15 to 20 | 20 to 25 | 25 to 30 | More than 30

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Alexander	M. B. Johnson.	Edgeley	O. A. Thompson.	Larimore	G. G Graham.	New Salem	J. Christiansen.
Amenia	E. T. Carley.	Energy	N. W. Solenberger.	Lisbon	W S. Adams.	Orange	T. F. Young.
Aplin	J. B. Hagelbarger.	Epping	M. E. Uggen.	McHenry	P. E. Truden.	Oriska	J. J. Taylor.
Ashley	R. C. Miles.	Fessenden	G. T. Seymour.	McKinney	N. P. Swenson.	Park River	O. J. Sieker.
Beach	D. J. Steiner.	Forman	A. Maltby.	McLeod	E. W Griggs.	Parshall	J. A. Johnson.
Berthold Agency	Chas. L. Hall.	Fullerton	F. O. Alin.	Maddock	W. M. Jackson.	Pembina	C. W. Shumaker.
Bierman	E. F. Biermann.	Garrison	G. L. Robinson.	Mandan	N. G. P. F. Sta.	Power	J. Radcliffe.
Bottineau	H. F. Steinmeier.	Goodall	C. H. Layman.	Manfred	P. B. Anderson.	Powers Lake	Chas. Frank.
Bowbells	G. H. Phelps.	Grafton	A. R. T. Wylie.	Manning	A. J. Bretzlaff.	Steele	H. S. Wood.
Bowman	L. S. Diehl.	Grand Rapids	G. H. Leick.	Marmarth	S. P. Grane.	Taylor	H. Leutz.
Buford	P. Elmore.	Granville	W. A. Christianson.	Marstonmoor	H. H. McCumber.	Towner	B. Bagley.
Cando	E. T. Judd.	Hannah	J. Moffatt.	Mayville	W. C. Gould.	Turtle Lake	E. J. Jones.
Carson	J. W. Evans.	Hansboro	C. E. Blackorby.	Medora	J. O. Gray.	University	H. E. Simpson.
Colgate	H. P. Rice.	Hettinger	A. J. Ogaard.	Melville	J. P. Kidder.	Wahpeton	F. E. Smith.
Cooperstown	S. Friswold.	Hillsboro	F. E. Mayall.	Milnor	Hj. Edman.	Walhalla	I. DeL. Lee.
Crosby	H. G. Anderson.	Howard	C. P. Amsbaugh.	Minot	W. I. Faris.	Washburn	J. T. McCulloch.
Dickinson	L. R. Waldron.	Jamestown	S. Calvelage.	Minto	C. M. Evans.	Westhope	W. A. Meddaugh.
Donnybrook	Geo. Michel.	Lakota	C. R. Pettes.	Mott	O. H. Opland.	Willow City	M. A. Ostby.
Dunseith	J. G. Lamont.	Lamoine	E. V. Virgin.	Napoleon	C. J. Hoof.	Zap	H. A. Crandall.
Eckman.	J. Nussbaum.	Langdon	R. T. Burke.	New England	J. M. Connolly.		

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Center	W. T. Maher.	Fullerton ‖	F. O. Alin.	Marion‖	Postmaster.	University‖‡	H. E. Simpson.
Crystal*	Postmaster.	Grafton* ‖	Postmaster.	Minot† ‖	Postmaster.	Valley City	J. E. Switzer.
Eckman *	Postmaster.	Grand Forks ‖	R. B. Griffith Co.	Neche * ‖	Postmaster.	Wahpeton ‖	Postmaster.
Edgeley † ‖	Postmaster.	Langdon ‖	R. T. Burke.	Northwood‖§	G. P. Johnson.	Bismarck † ‖	U. S. Weather Bur.
Edinburg ‖	Postmaster.	Lankin * ‖	Postmaster.	Oakes† ‖	Postmaster.	Devils Lake † ‖ §	U. S. Weather Bur.
Englevale* ‖	Postmaster.	Lisbon ‖§	Postmaster.	Rugby ‖	Postmaster.	Williston † ‖§	U. S. Weather Bur.
Fargo ‖	Postmaster.	Mandan ‖	Mandan Tel. C .				

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags. ‡ By wireless telegraph.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

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CLIMATOLOGICAL DATA

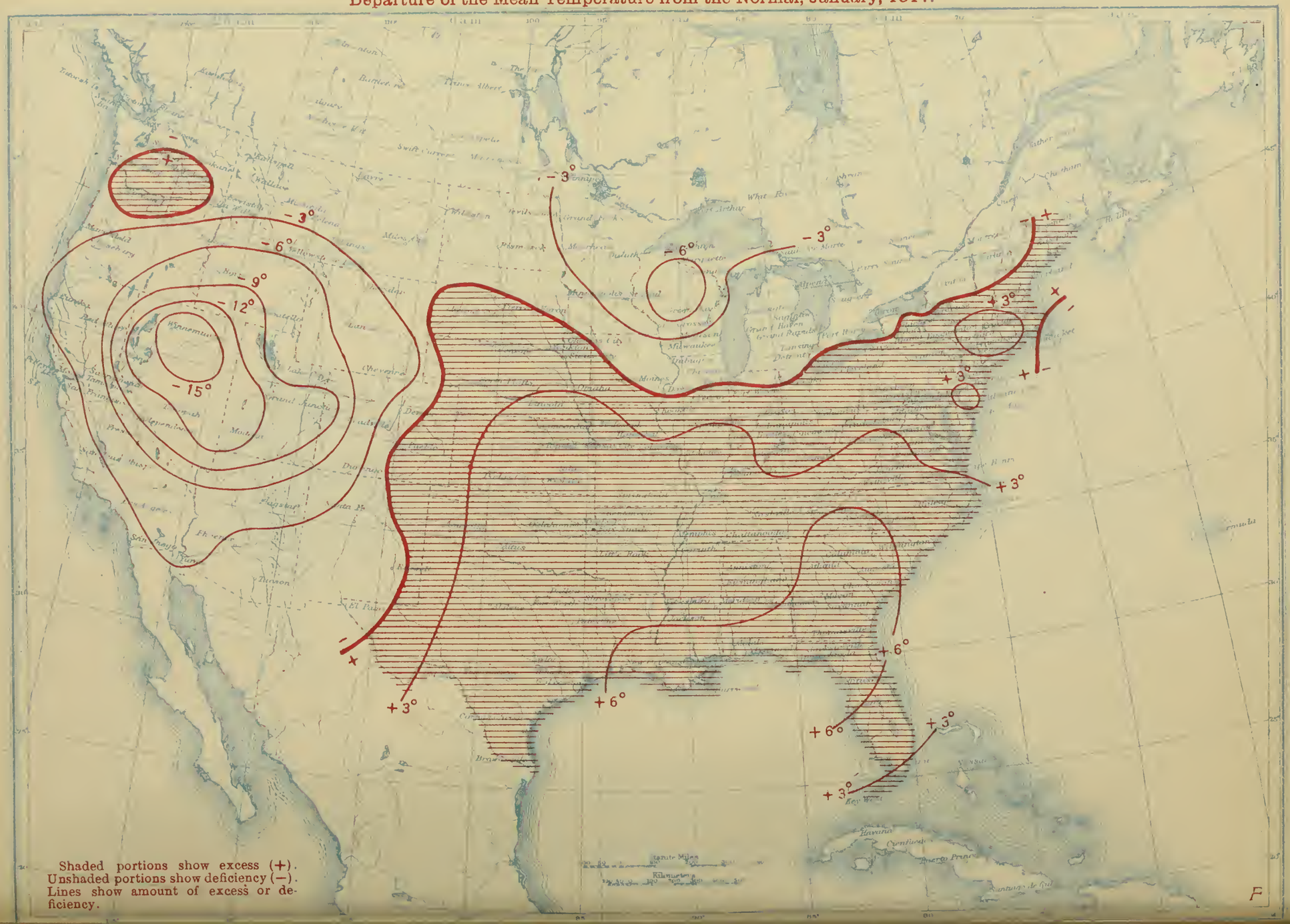
NORTH DAKOTA SECTION

JANUARY, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 27, 1917.

Departure of the Mean Temperature from the Normal, January, 1917.



Shaded portions show excess (+). Unshaded portions show deficiency (−). Lines show amount of excess or deficiency.

F

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., JANUARY, 1917. No. 1.

GENERAL SUMMARY.

Severe weather conditions generally prevailed over the State. The temperature averaged more than three degrees below the normal, there was more than the usual precipitation, and there was slightly more than the usual cloudiness. Frequent high winds caused much delay to railway and wagon traffic, and much suffering to livestock on ranges.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.12 inches. The highest was 31.00 inches at Moorhead on the 15th; the lowest was 29.26 inches at Williston on the 27th.

TEMPERATURE.

The mean temperature for the State was 1.7°, or 3.2° below the normal, and 8.1° higher than the mean for January, 1916. The highest mean reported was 12.5° at Bierman, Slope County; the lowest was -9.6° at Cando, Towner County. The highest temperature reported was 47° at Berthold Agency, McLean County, on the 9th; the lowest was -46° at Hannah, Cavalier County, on the 14th. The greatest daily range of temperature was 60° at Bottineau, Bottineau County, on the 7th. The greatest monthly range was 85° at Park River, Walsh County; the least was 66° at Forman, Sargent County. Geographically the distribution of temperature was uneven. The first decade was the warmest, and the second and third averaged nearly the same.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 87 per cent, the average at 7 a. m. being 89 per cent, and at 7 p. m. 85 per cent.

PRECIPITATION.

The average precipitation for the State was 0.73 inch, or 0.19 inch above the normal, and 0.65 inch less than the average for January, 1916. The greatest monthly amount reported was 2.80 inches at Hansboro, Towner County; the least was 0.05 inch at Westhope, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 0.90 inch at Fullerton, Dickey County, on the 21st. All of the precipitation was in the form of snow, the average for the State being 8.6 inches. The average number of days with 0.01 inch or more of precipitation was 5. Stormy periods were from the 4th to the 12th, inclusive, and from the 20th to the close of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.1 miles. The greatest wind movement was 8,802 miles at Devils Lake, an average of 11.8 miles per hour; the least was 6,681 miles at Williston, an average of 9.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 51 miles per hour from the northwest at Williston on the 9th.

SUNSHINE AND CLOUDINESS.

There was nearly the usual sunshine, the average being but slightly below the normal; the average number of clear days was 13, partly cloudy days 8, and cloudy days 10.

ERRATA, DECEMBER, 1916.

Page 92: Taylor, number of clear days should be 10, partly cloudy, 8, and cloudy, 13. Buford, mean temperature and departure should be 3.6°, -10.4°.

Page 93: Manfred, amount of precipitation on the 15th should be trace.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−2.3	58	−52	0.79	+0.30	4	15	8	8	nw.
1893...	0.8	−4.4	49	−48	0.98	+0.49	7	11	11	9	nw.
1894...	0.6	−4.6	71	−47	0.39	−0.10	4	13	7	9	nw.
1895...	−2.9	−8.1	42	−46	0.56	+0.07	5	16	8	7	nw.
1896...	5.3	+0.1	58	−42	0.70	+0.21	6	14	8	9	nw.
1897...	3.6	−1.6	49	−38	0.79	+0.30	5	13	9	9	nw.
1898...	14.6	+9.4	69	−32	0.11	−0.38	2	8	8	15	nw.
1899...	5.2	0.0	55	−41	0.25	−0.24	3	11	8	12	nw.
1900...	15.4	+10.2	70	−30	0.22	−0.27	3	15	4	12	nw.
1901...	7.7	+2.5	68	−39	0.28	−0.21	4	17	7	7	nw.
1902...	12.7	+7.5	51	−40	0.14	−0.35	2	16	6	9	nw.
1903...	9.4	+4.2	56	−37	0.66	+0.17	5	19	5	7	nw.
1904...	3.6	−1.6	50	−52	0.37	−0.12	5	12	7	12	nw.
1905...	0.9	−4.3	48	−40	0.30	−0.19	3	8	12	11	nw.
1906...	12.2	+7.0	60	−38	0.69	+0.20	4	14	9	8	nw.
1907...	−6.2	−11.4	45	−45	1.40	+0.91	8	21	5	5	nw.
1908...	17.0	+11.8	70	−38	0.18	−0.31	2	11	7	13	nw.
1909...	3.5	−1.7	53	−48	0.42	−0.07	4	14	8	9	nw.
1910...	9.4	+4.2	49	−35	0.33	−0.16	3	16	8	7	nw.
1911...	−1.0	−6.2	56	−43	0.91	+0.42	6	11	8	12	nw.
1912...	−4.6	−9.8	63	−52	0.35	−0.14	4	16	6	9	nw.
1913...	3.2	−2.0	60	−54	0.45	−0.04	5	12	9	10	nw.
1914...	14.8	+9.6	62	−38	0.50	+0.01	4	16	8	7	nw.
1915...	5.8	+0.6	51	−48	0.29	−0.20	3	12	9	10	nw.
1916...	−6.4	−11.6	49	−56	1.38	+0.89	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.

Climatological Data for January, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie	.....	2	7.4	.....	40	8	−36	14	42	0.66	.....	0.61	.....	2	5	18	8	w.	M. B. Johnson.
Amenia	Cass	954	21	− 1.2[a]	−6.5	38[a]	8	−37	15	47[a]	0.45	0.00	0.30	4.5	2	26	0	5	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	5.4	−2.3	41	9	−29	14	40	1.20	+0.68	0.30	12.0	5	18	5	8	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	8.2	−1.2	40	9	−40	31	48	0.16	−0.56	0.09	15.0	3	17	11	3	nw.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	23	8.9	−2.2	47	9	−35	22	45	0.76	+0.35	0.38	6.9	5	10	9	12	nw.	C. L. Hall.
Bierman	Slope	.....	1	12.5	.....	43	9	−38	31	41	0.51	.....	0.13	7.7	7	7	7	17	sw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	6.3	−0.4	43	9	−28	31	43	0.65	+0.11	0.20	11.6	9	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	− 4.8	−4.9	38	8	−38	14†	60	0.39	−0.05	0.11	.....	11	10	4	17	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	− 0.8	.....	40	8	−37	14	54	0.34	.....	0.12	.....	4	12	10	19	.....	G. H. Phelps.
Bowman	Bowman	.....	3	11.7	.....	40	9	−41	31	40	1.30	.....	0.40	13.0	3	14	0	17	nw.	L. S. Diehl.
Buford	Williams	1,944	38	5.8	0.0	42	9	−41	31	40	0.95	+0.45	0.33	.....	7	11	12	8	nw.	P. Elmore.
Cando	Towner	1,488	16	− 9.6[d]	−8.6	30[e]	28	−44[b]	14	47[e]	0.10	−0.30	0.10	.....	1	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	5	9.2	.....	40	10	−34	31	33	0.52	.....	0.20	5.2	7	13	7	11	nw.	J. W. Evens.
Colgate	Steele	1,177	3	2.0	.....	40	28	−36	14	37	0.25	.....	0.10	2.6	6	18	5	8	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	0.50	−0.01	0.20	5.0	3	15	11	5	w.	S. Friswold.
Crosby	Divide	1,954	10	2.3	+0.7	34	8	−35	31	37	0.47	−0.11	0.10	4.8	6	12	7	12	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	− 3.0	−3.3	39	8	−40	14	38	0.55	−0.05	0.21	8.0	8	8	5	18	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	9.6	−0.8	41	8	−36	31	46	0.60	+0.15	0.18	6.2	7	13	6	12	sw.	J. C. Thysell.
Donnybrook	Ward	1,760	18	3.2[a]	−0.4	39[a]	9†	−34[a]	14†	39[a]	0.30	0.05	0.20	3.0	2	.....	.....	.....	.....	Geo. Michel.
Dunseith	Rolette	1,682	21	− 1.6	−4.9	34	9	−35	14	40	0.30	−0.16	0.10	10.0	7	14	7	10	n.	J. G. Lamont.
Eckman	Bottineau	.....	12	− 0.8	1.4	40	8†	−44	14	46	1.30	+0.74	0.30	13.0	8	14	6	11	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	5.8	−2.0	41	9	−28	14	39	0.28	−0.02	0.13	2.8	4	6	12	13	nw.	O. A. Thompson.
Energy†‡	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.06	.....	7	13	6	12	nw.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	0.32	.....	0.18	6.0	3	17	5	9	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	0.4	.....	38	9	−38	14	50	1.00	.....	0.30	9.5	5	17	5	9	se.	G. T. Seymour.
Forman	Sargent	1,249	25	3.2	−3.7	38	9	−28	14	34	0.34	−0.17	0.20	3.4	4	.....	.....	.....	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	4.8	−3.6	40	9	−29	14	35	2.37	+1.72	0.90	23.7	7	12	8	11	s.	F. O. Alin.
Garrison	McLean	1,901	22	4.0	−3.2	38	9	−32	14†	42	0.40	0.11	0.40	4.0	1	19	3	9	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	3	4.2	.....	40	8†	−37	31	41	0.16	.....	0.16	.....	1	10	7	14	nw.	C. H. Layman.
Grafton	Walsh	827	25	− 7.5	8.9	40	8	−41	15	53	0.48	−0.10	0.15	5.9	6	12	2	17	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	25	− 5.0	−9.0	40	8	−36	14	41	0.68	+0.16	0.30	6.8	10	19	7	5	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	4.0	.....	39	8	−33	15	45	1.50	.....	0.80	15.0	4	15	4	12	nw.	G. H. Leick.
Granville	McHenry	1,504	10	3.2	+1.5	35	9	−34	14	42	0.40	−0.01	0.20	7.0	3	10	17	4	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	− 8.2	−6.0	36	8	−46	14	37	1.40	+0.39	0.60	14.0	5	14	7	10	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	− 5.8	.....	42	8	−40	14	45	2.80	.....	0.60	28.0	9	21	2	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Ogaard.
Hillsboro	Traill	901	11	− 2.2	−6.1	40	8	−36	15	43	0.60	−0.17	0.20	6.0	6	12	15	4	nw.	F. E. Mayall.
Howard	Williams	2,275	10	2.0	+0.1	35	8	−42	31	38	0.80	−0.03	0.53	8.0	3	11	9	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	0.6	−6.6	39	8	−35	15	46	0.80	+0.26	0.40	8.0	6	16	6	9	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	− 4.8[a]	−3.6	37[a]	8	−38[a]	14	51[a]	0.22	−0.48	0.08	5.5	4	.....	.....	.....	w.	C. R. Pettes.
Lamoine	Kidder	1,936	9	1.6	2.4	37	8	−38	14	43	0.10	−0.55	0.10	1.0	1	14	5	12	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	− 9.0	6.9	36	9	−45	14	41	2.40	+1.69	0.60	24.0	10	.....	.....	.....	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	− 2.4	−5.7	40	8	−38	14	53	0.40	−0.10	0.15	8.0	5	14	2	15	sw.	G. G. Graham.
Lisbon	Ransom	1,091	13	.....	.....	.....	.....	−37	15	.....	1.90	+1.27	0.60	19.0	7	.....	.....	.....	.....	W. S. Adams.
McHenry	Foster	1,509	7	− 2.8	.....	38	8	−39	14	46	1.04	.....	0.21	10.0	8	20	7	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	3.0	0.3	41	8	−37	14	50	0.25	−0.11	0.20	2.5	2	3	25	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	0.4	.....	40	9	−33[b]	15	35[d]	0.75	.....	0.20	7.5	8	15	2	14	nw.	R. D. Markland.
Maddock	Benson	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. P. Cowing.
Mandan	Morton	1,644	3	5.6	.....	41	9	−30	14†	48	0.28	.....	0.08	.....	4	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	2.6[a]	−1.4	38[a]	8	−37[a]	14	43[a]	0.64	−0.04	0.50	7.5	4	12	9	10	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzleff.
Marmarth	Slope	.....	8	10.4[a]	.....	40[a]	9	−39[c]	31	43[c]	0.28	.....	0.12	4.6	8	8	11	12	sw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	0.2	.....	38	8†	40	14	45	0.55	.....	0.25	5.5	6	14	8	9	nw.	H. H. McCumber.
Mayville	Traill	975	21	− 2.1	− 8.7	41	8	−37	14	43	0.75	+0.38	0.25	.....	6	22	4	5	.....	W. C. Gould.
Medora	Billings	2,225	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. O. Gray.
Melville	Foster	1,590	19	2.4	−4.0	38	8	−35[c]	14†	40	0.60	+0.25	0.60	6.0	1	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	0.78	.....	0.30	9.5	5	16	4	11	nw.	Hj. Edman.
Minot	Ward	1,557	21	1.9	−3.9	41	8	−35	14	53	0.25	−0.15	0.20	3.0	3	6	6	19	nw.	W. I. Faris.
Minto	Walsh	820	24	− 5.2	−7.0	38	8	−43	14	40	0.51	+0.03	0.25	.....	5	21	2	8	nw.	C. M. Evans.
Mott	Hettinger	2,424	10	5.8	−1.8	40	8†	−35	31	43	1.78	+0.94	0.43	16.8	8	12	6	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	2.8	−3.5	38	8	−35	14	38	0.25	−0.26	0.20	5.0	2	10	1	20	nw.	C. J. Hoof.
New England	Hettinger	2,400	23	10.0	−4.1	37	28	−38	31	48	1.10	+0.66	0.30	11.0	4	10	19	2	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	5.6	−2.2	45	9	−35	31	38	0.81	+0.15	0.20	8.0	9	14	8	9	.....	J. Christiansen.
Orange†‡	Adams	2,586	8	10.0	.....	41	9	−32	14†	44	0.60	.....	0.20	6.0	4	6	9	16	nw.	T. F. Young.
Oriska	Barnes	1,270	12	0.1	−4.7	41	7†	−33	14	40	0.95	+0.37	0.40	9.5	6	11	12	8	n.	J. J. Taylor.
Park River	Walsh	998	13	− 3.2[a]	−5.0	40[a]	8	−45[a]	22	46[a]	1.00	+0.57	0.27	10.0	11	.....	.....	.....	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	43	− 7.8	−5.1	36	8	−44	14	36	0.70	+0.11	0.20	7.0	4	10	16	5	nw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	1.83	.....	0.75	17.2	7	9	17	5	nw.	C. Frank.
Steele	Kidder	1,857	20	2.0	− 6.9	42[a]	8	−33	22	42[a]	1.21	+0.86	0.36	11.4	8	6	13	12	w.	H. S. Wood.
Taylor	Stark	2,493	1	7.1	.....	39	9	−43	31	44	1.06	.....	0.40	.....	10	10	15	6	w.	H. Leutz.
Towner	McHenry	1,482	15	0.0	2.8	39	8	−39	14	45	0.45	−0.09	0.40	4.5	2	16	7	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	5.2	.....	38	8†	−31	14	40	0.20	.....	0.10	2.0	2	11	12	8	nw.	E. J. Jones.
Wahpeton	Richland	962	23	1.5	− 6.5	41	8	−36	15	50	0.56	+0.13	0.29	.....	5	12	10	9	sw.	F. E. Smith.
Walhalla	Pembina	966	10	− 6.3	6.0	42	8	−37	14	37	1.10	+0.27	0.20	11.0	7	18	1	12	n.	Ivan Lee.
Washburn	McLean	1,734	18	2.4[j]	5.3	39[j]	8	−30[j]	14	43[j]	0.60	+0.21	0.40	6.0	4	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	11	− 3.2	−2.0	39	8	−43	14	41	0.05	0.44	.....	0.5	2	4	18	9	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	5.2	1.3	40	9	−36	31	42	0.47	0.11	0.15	4.2	9	8	13	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	− 4.0	4.9	38	8	−41	14	41	1.60	+1.25	0.50	16.0	7	9	12	10	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	6.0	.....	41	8	−35	31	39	0.26	.....	0.09	5.3	9	7	5	19	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	− 0.9	3.6	40	8	−32	15	36	0.65	0.06	0.22	6.5	7	14	9	8	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	1.7	3.2	47	9	−46	14	60	0.73	+0.19	0.90	8.6	5	13	8	10	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for January, 1917.

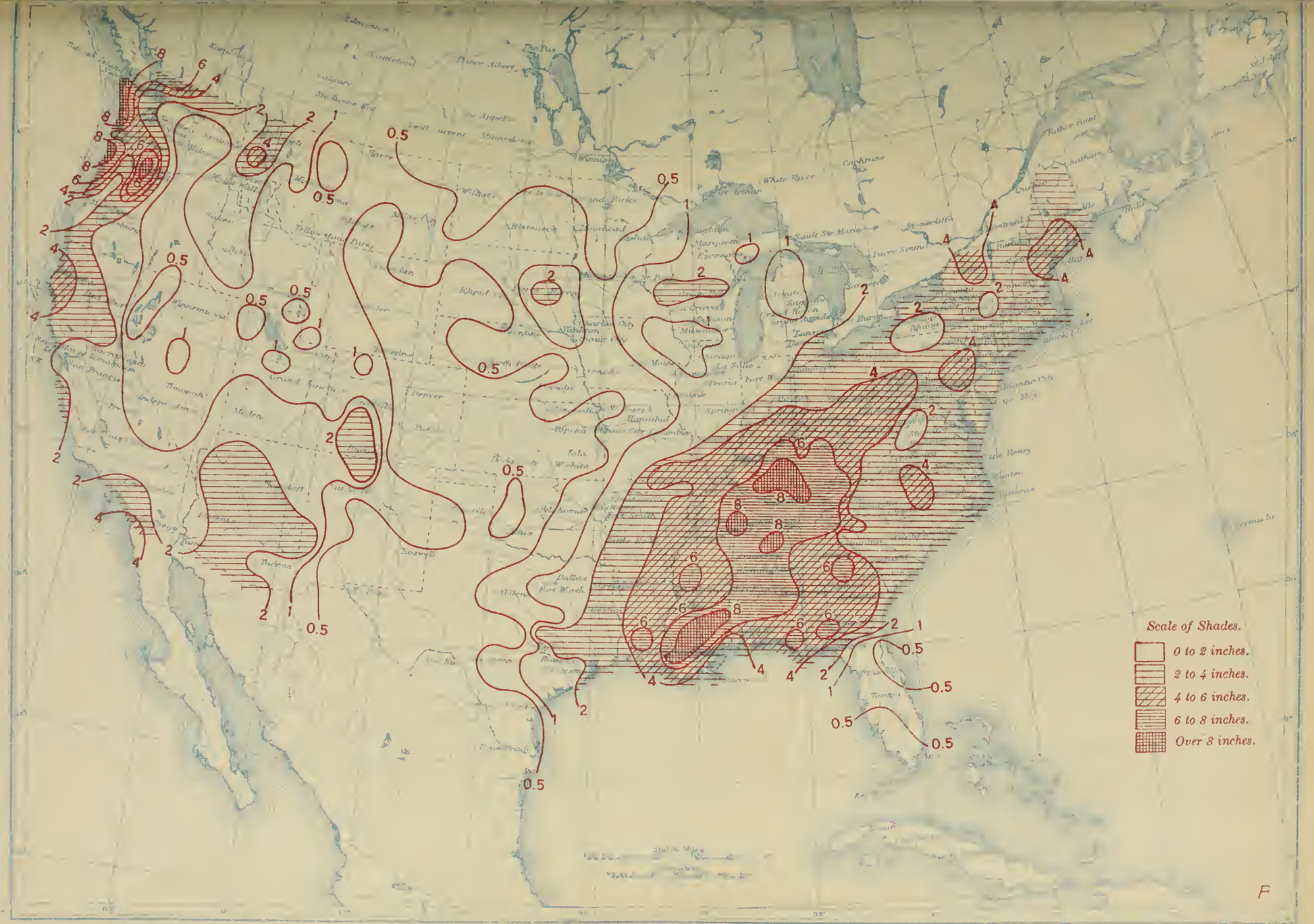
Stations.	Watershed.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri												.61																	.05			0.66
Amenia ‖ ‖	Red									.30			.15															T.					0.45
Ashley	Missouri																				.20	.20					.20				.30	.30	1.20
Beach	Lit. Missouri								.05												T.	.02							T.	T.	.09		0.16
Berthold Agency	Missouri					T.	T.			T.	T.	T.	.01					T.			T.	.38		.03			.20					.14	0.76
Bierman	Lit. Missouri											T.	T.					T.			.10	.13					.05		.07	.03	.09	.04	0.51
Bismarck ***	Missouri				T.		T.	T.		T.	.01	.02	.01	T.				T.			.07	.14	T.	T.	T.	.01	.19		.14	T.	.06		0.65
Bottineau ‖ ‖	Mouse			.03	.01	T.	.09				.11	T.	.07	.02						.01	T.	.01						.02	.01			.01	0.39
Bowbells ‖ ‖	Mouse							.05																			.07		.10	.12			0.34
Bowman	Grand																				.40						.30				.60		1.30
Buford	Missouri					.12	.13				T.		.33								.20			.09			.05			T.	.03		0.95
Cando	Sheyenne																			.10													0.10
Carson	Heart										.10										.02	.08		.02		.02			T.	.20	.08		0.52
Colgate	Sheyenne						.02			.10		.05										.02						.05				.01	0.25
Cooperstown	Sheyenne										.20	.10										T.							.20				0.50
Crosby	Mouse			T.		.10				T.		.10	T.								T.		.10	.02			.10	.05					0.47
Devils Lake ***	Sheyenne			T.		.04				.21		.21	.04	.01						.01		.01			T.			T.	T.			.02	0.55
Dickinson ‖ ‖	Heart										T.	.01	.10	.05									.10	T.		T.	.14		.02		.18	0.60
Donnybrook	Mouse						T.				.10											.20						T.				0.30
Dunseith	Mouse						.02			.05		.10	.02														.04	.05		.02			0.30
Eckman	Mouse			.10	T.	T.	T.			.30		.20										.30			.10		T.	.10	.10			.10	1.30
Edgeley	James						.06																.13					.07		.02			0.28
Energy	Missouri					T.	T.			.02		.03	.04								.02	.05					.03				.06		0.25
Epping	Missouri										T.											.18		.02	T.			.12	T.				0.32
Fessenden ‖ ‖	James				T.	T.	T.	.05			.30		.20	.20							T.	.25								T.		T.	1.00
Forman	Sheyenne									.10		.02										.20					.02						0.34
Fullerton	James								.08	.06			.35									.90		.06		T.	.12			T.	T.	.80	2.37
Garrison	Missouri					.40																											0.40
Goodall	Missouri																											.16					0.16
Grafton ‖ ‖	Red										.15		.12	.12						.03									.03	.03			0.48
Grand Forks	Red					.05	.02			.09		.29	.01							.04		.06						.08	.02		.02		0.68
Grand Rapids	James									.30		.20										.80		T.			.20						1.50
Granville	Mouse					.10	T.			.20		T.								T.		T.							T.			.10	0.40
Hannah	Pembina			.10			.20			.10			.60							T.								.40					1.40
Hansboro	Red			.30	.20	.60				.30		.40	.20							.30								.30				.20	2.80
Hettinger	Grand																																
Hillsboro	Red									.10		.05	.10									.05		.10			.20						0.60
Howard	Missouri			.05						.10	T.											.53			T.		.22		T.	T.	T.		0.80
Jamestown ‖ ‖	James					T.				.40			.05										.10					.10		.10		.05	0.80
Lakota	Sheyenne						.04			.06		.08	T.							T.	T.	T.										.04	0.22
Lamoine	Missouri									T.		T.									T.								.10				0.10
Langdon ‖ ‖	Pembina				.20		.20				.40		.60	.40						.10	.10							.10	.20	.10			2.40
Larimore ‖ ‖	Red										.10		.15	.05															.05	.05			0.40
Lisbon ‖ ‖	Sheyenne	.60	.20									.40	.20									.20	.10				.20						1.90
McHenry	James			T.		.10				.21		.16	.10							.10		.11			T.		.16					.10	1.04
McKinney	Mouse									.20																			.05	T.			0.25
McLeod	Sheyenne									.20	.10	.10	.05							T.		.05					.10	.05			T.	.10	0.75
Maddock	Sheyenne																																
Mandan ‖ ‖	Missouri										T.		T.								T.	.08	T.	T.		T.	.05	T.		.07	T.	.08	0.28
Manfred	Sheyenne				T.	.02				.50		.10	T.							T.	.02									T.			0.64
Manning	Knife																																
Marmarth	Lit. Missouri									T.			T.						T.			.12		*	.02	*	.03		*	*	.11		0.28
Marstonmoor	James				T.				T.	.25	T.	.05	.05							T.	T.	.10	T.			T.	.05			.05	T.	T.	0.55
Mayville	Red								.25	.05		.20	.10																.10	.05			0.75
Medora	Lit. Missour																																
Melville	James				T.					.60												T.						T.	T.				0.60
Milnor	Red								T.	.13	.10	T.	.30									.15		T.				T.		T.		.10	0.78
Minot ‖ ‖	Mouse						.05				.20																	.05					0.30
Minto	Red					.05				.11		.25								.09								.01					0.51
Mott	Cannon Ball										.05		.03								.25	.32			T.	.15	.43		.20	.03	.32		1.78
Napoleon ‖ ‖	Missouri																					.20								.05			0.25
New England	Cannon Ball																					.30				.20			.30		.30		1.10
New Salem	Heart										T		.15	.02							.03	.02			T.	.04	.20		.05	.15	.15		0.81
Orange	Cannon Ball																					.10							.10		.20	.20	0.60
Oriska	Sheyenne									.40			.20										.10					.10		.10		.05	0.95
Park River	Red					.03	.09			.05	.05	.03	.10	.20							.04							.10	.27	T.		.04	1.00
Parshall	Missouri																																
Pembina ‖ ‖	Red				.20		.20						.20																.10				0.70
Power	Sheyenne																																
Powers Lake	Missouri								T.	.08		.75	.50					T.				.10			.15		.20				.05		1.83
Steele	Missouri				T.							.02	.03	.04			T	T.	T.		.36			.06	T.		.20	.20	.30		T.		1.21
Taylor	Heart										.03		.06					.21					.40		.04	.01	.02			.01	.12	.16	1.06
Towner	Mouse				.05					.40																							0.45
Turtle Lake	Missouri					T.	T.					T.	.10								T.	.10		T.			T.	T.			T.		0.20
Walhalla	Red										.29		.05	T.									.16	T.				.03				.03	0.56
Walhalla	Pembina			.20		.20				.10		.20	.20	.10						.10													1.10
Washburn	Missouri					.40																							.05				0.60
Westhope	Mouse		T.							T.		T.								T.								*	.05				0.05
Williston ***	Missouri			T.	T.	T.	T.			T.	T.	.03	.05					T.		T.	.07	.08	T.	T.	T.	.03	.09			.01	.08	.03	0.47
Willow City	Mouse			.10	T.	.20	.10			.50		.30								T.	T.	.20				T.	.20						1.60
Zap	Knife									.02			.04									.09		.02	.01	.01	.02			.04	.01		0.26
Moorhead, Minn ***	Red									.15		.16	.06									.16		.01				.06				.05	0.65

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	24	28	26	30	29	36	33	40	38	31	39	13	−6	−3	3	10	23	26	30	16	16	5	18	13	11	19	33	33	4	4	−20	19.6
	Minimum	−1	9	17	10	5	3	−5	27	30	5	7	11	−29	−36	−24	−22	2	5	11	3	−26	−28	−5	−19	−15	8	8	2	−8	−24	40	−4.9
Amenia §§	Maximum	23	32	28	17	7	18	31	38	11	4	6	−1	16	−11	−8	12	25	19	14	0	−4	0	4	4	4	0	14	29	9	−10	....	[a]11.0
	Minimum	−7	2	0	−14	−9	−9	−6	−6	4	−10	−20	−16	−11	−18	−37	−35	−20	−6	−9	−14	−14	−24	−27	−21	−18	−22	−16	−1	−6	−11	−18	−13.5
Ashley	Maximum	24	26	31	25	19	26	26	36	41	34	9	16	−8	−8	3	11	22	23	24	15	5	5	5	17	3	12	7	18	33	19	10	−9	16.3
	Minimum	3	6	−2	10	−8	−2	−4	17	24	−6	−13	−8	−20	−29	−27	−13	−7	−4	10	4	−14	−28	−13	−9	−12	−3	0	12	0	−9	−27	−5.5
Beach	Maximum	24	28	31	30	37	35	33	38	40	28	38	−5	3	−8	7	10	23	20	22	30	28	6	20	20	26	23	20	34	18	−6	−20	20.4
	Minimum	−21	0	8	10	−1	10	15	22	26	5	−10	−14	−22	−34	−26	−22	−2	6	4	1	−19	−28	4	−9	10	12	12	10	−9	−23	−40	−4.0
Berthold Agency	Maximum	30	34	31	37	34	31	39	42	47	40	34	17	5	−4	2	15	31	32	26	32	20	22	15	12	16	17	31	37	15	3	−10	23.6
	Minimum	13	1	4	14	−3	3	−10	25	25	0	−8	−10	−21	−31	−28	−28	−5	−8	3	4	−15	−35	2	−12	−13	0	8	8	4	−25	−34	−5.8
Bismarck	Maximum	26	29	33	29	9	27	37	42	43	20	21	7	11	−8	3	15	30	30	24	13	5	16	20	5	9	9	25	26	9	−5	−15	16.9
	Minimum	2	5	9	5	−7	0	2	22	20	−10	−8	−11	−22	−27	−22	−18	2	0	11	5	−21	−27	−3	5	6	4	9	8	−5	−17	−28	−4.3
Bottineau §§	Maximum	17	22	26	28	5	1	33	38	16	9	6	−2	−11	−13	3	8	20	12	8	1	−5	−4	1	−6	−8	3	25	16	2	−14	−21	6.7
	Minimum	−7	−5	2	−14	−14	−10	−27	3	9	−12	−24	−11	−19	−38	−38	−25	−20	−11	−6	−5	−17	−33	−32	−24	−24	−19	−8	2	−16	−31	−27	−16.2
Bowbells §§	Maximum	22	27	25	23	10	12	13	40	32	17	22	5	0	10	−5	15	32	20	10	10	0	0	10	0	5	7	10	0	−10	−16	−25	9.7
	Minimum	1	8	6	0	−1	5	−10	−14	0	−14	−14	−13	−19	−37	−30	10	15	10	10	−20	−20	−22	−20	−24	19	−21	−20	−15	−16	−32	−30	−11.2
Carson	Maximum	27	30	31	30	27	30	32	38	31	40	35	20	8	−3	4	15	28	30	25	20	20	5	20	10	10	10	22	25	10	22	−5	21.0
	Minimum	3	10	14	5	−4	5	1	25	23	3	3	−11	−20	−30	−20	−13	3	−3	15	7	−15	−28	4	−15	−5	3	5	13	−3	−17	−34	−2.5
Colgate	Maximum	20	27	28	14	14	18	30	38	34	3	−4	−4	−5	−12	−4	−4	25	25	10	4	0	4	12	20	28	0	10	40	20	6	−11	12.5
	Minimum	2	5	7	−14	−10	−5	5	15	−2	−15	−14	−11	−17	−36	−30	14	8	−6	0	−5	−10	−28	−11	−14	−12	−15	−8	3	6	−17	−16	−8.4
Crosby	Maximum	15	30	20	12	12	5	21	34	32	12	30	0	−10	−2	7	5	15	20	18	15	12	10	10	0	18	15	28	6	4	−10	15	11.5
	Minimum	0	9	9	−9	−11	0	5	12	12	−10	8	−5	−32	−30	−19	−18	0	−5	4	−13	−12	−27	−3	−11	−2	−0	5	4	−16	−28	−35	−7.3
Devils Lake	Maximum	17	25	31	23	−3	17	26	39	28	4	6	5	8	−18	−5	8	19	11	10	2	7	−1	7	−8	−4	−1	17	26	2	−12	−17	7.3
	Minimum	−2	6	−5	−8	−12	−11	−12	15	−5	−19	−20	−11	−27	−40	−25	−18	2	−7	−4	−8	−24	−26	−20	−21	−21	−16	−4	2	−13	−24	−31	−13.2
Dickinson	Maximum	26	26	30	32	34	34	37	41	40	25	37	−8	0	−2	6	13	25	28	28	23	10	17	21	16	12	16	30	19	16	10	−27	19.8
	Minimum	−1	11	13	5	−4	14	7	26	25	19	9	−9	−22	−31	−27	−20	−12	−3	15	10	−3	−29	15	−8	−8	10	7	19	10	−19	−36	−0.5
Donnybrook	Maximum	21	26	25	27	12	24	25	38	39	39	27	11	5	−4	−3	8	22	22	21	10	4	1	....	3	6	6	24	27	5	−6	−16	[b]14.6
	Minimum	3	15	7	3	−11	−5	−12	24	15	−9	−13	−11	−17	−34	−21	15	6	−3	2	9	19	−27	....	19	−8	9	0	0	−12	−29	−34	−[b]8.1
Dunseith	Maximum	22	23	25	23	20	23	21	24	34	10	−5	4	−7	−9	2	−9	4	12	−4	6	0	−15	−4	6	13	24	15	18	25	10	8	9.9
	Minimum	−1	−7	6	11	−9	−16	−12	8	8	−12	17	−19	−20	−35	−31	−20	−12	−6	−10	−8	−21	−31	−24	10	−7	−5	5	−7	−14	−30	−28	13.2
Edgeley	Maximum	28	29	33	27	21	27	32	40	41	32	10	15	5	−10	2	14	28	25	21	12	4	−4	14	0	8	1	17	32	24	7	−10	16.9
	Minimum	8	14	5	−1	−9	−3	−7	22	16	7	−14	−7	−16	−28	−27	−13	−4	−1	10	−1	−13	−24	−13	−16	−10	−8	−1	12	1	−12	−22	−5.2
Fessenden §§	Maximum	22	28	32	23	20	14	35	38	28	23	14	−3	−7	−15	1	9	24	18	15	3	−3	9	−1	−3	9	7	20	19	5	−7	−20	11.5
	Minimum	5	0	−1	6	−7	−6	15	14	23	−20	−25	−7	−21	−38	−32	−23	−16	−5	−3	−3	−18	−32	−28	−13	−15	−14	−11	1	−7	−22	−22	−12.2
Forman	Maximum	21	22	22	....	24	20	22	37	38	15	3	9	−4	−12	4	10	27	22	19	11	7	9	9	−1	6	0	17	30	22	10	−15	[a]12.6
	Minimum	2	6	4	....	9	3	−10	13	12	9	−17	−6	−12	−28	−27	−15	7	−3	10	0	−10	−25	−11	−17	−9	−12	5	17	1	−6	−15	−[b]6.2
Fullerton	Maximum	19	29	32	27	18	15	32	39	40	21	15	15	4	−8	0	14	27	23	17	7	6	−5	14	0	5	10	5	33	21	6	−9	13.6
	Minimum	6	4	4	−3	−10	−5	5	20	21	−14	−14	−6	−15	−29	−24	−12	0	−1	5	0	−11	−25	−14	−15	−8	−9	−5	8	2	−10	−17	5.5
Garrison	Maximum	24	27	28	32	15	10	31	35	38	30	17	10	−11	−11	−9	10	27	24	28	22	10	2	16	3	11	5	27	23	10	−4	−15	15.0
	Minimum	0	8	8	4	−7	4	−11	21	25	−6	14	−11	−22	−32	−25	−22	1	−3	5	−1	−15	−29	−6	−17	−7	−1	3	10	−6	−22	−32	−7.1
Grafton §§	Maximum	17	24	28	16	8	8	30	40	3	−4	0	−2	11	−15	−12	11	19	13	7	−3	11	−6	−6	1	−5	0	27	25	1	−11	−11	5.8
	Minimum	−10	−3	−9	−22	−18	−15	−23	−3	4	−20	−31	−19	−15	−40	−41	−34	−20	−11	−8	−30	−30	−29	−26	−33	−29	−36	−16	−5	−15	−26	−25	−20.8
Grand Forks	Maximum	14	20	29	14	3	10	25	40	7	−2	−3	3	−9	−16	−11	13	20	14	11	1	−5	−2	−5	−4	−10	−2	14	24	9	−9	−16	5.7
	Minimum	1	−2	−5	13	−14	−14	−16	6	−2	−20	−22	−10	−29	−36	−35	−23	−3	−8	11	−22	−23	−26	−23	−26	−26	−25	−8	9	−10	−27	−25	−15.6
Granville	Maximum	25	30	30	30	10	20	30	30	35	22	20	5	−5	−5	0	5	25	25	20	20	5	10	−5	8	5	5	30	20	20	−10	−20	14.2
	Minimum	−5	5	0	5	−8	−10	−12	15	20	0	−20	−8	−20	−34	−22	−12	5	5	5	−5	−16	−27	−20	−10	−10	−5	−4	5	−12	−22	−28	−7.9
Hannah	Maximum	15	21	18	19	16	3	18	36	21	2	6	−1	−5	−19	13	−5	11	13	3	−6	−11	−10	−9	−8	−15	−3	10	19	−2	−12	−16	3.1
	Minimum	−4	3	0	−15	−18	−17	−19	0	2	−25	−27	−10	−22	−46	−37	−27	13	−12	14	−23	−36	−32	−28	31	−25	−32	−5	2	−21	−34	−31	−19.6
Hansboro	Maximum	18	22	28	20	12	3	25	42	15	4	4	0	8	−10	−4	8	20	20	10	0	−10	−10	−7	−7	8	0	10	26	5	−15	−16	6.4
	Minimum	2	6	−10	−14	20	−15	−20	10	−6	−17	−20	20	−28	−40	−28	−20	5	−10	−2	−20	−28	−32	−22	−32	−32	−27	12	0	−26	−32	−32	17.9
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard	Maximum	21	26	23	25	29	30	23	35	34	30	28	0	15	11	6	4	19	20	21	10	10	7	15	9	6	11	30	27	5	14	−23	13.5
	Minimum	−1	10	9	0	−8	−6	9	13	13	0	−10	−15	30	−32	22	19	−9	5	7	−1	−27	30	−6	19	−8	3	7	5	−16	−33	42	−9.4
Jamestown §§	Maximum	23	24	32	25	13	21	34	39	31	24	10	−3	−10	−13	2	13	26	16	13	3	−1	11	8	2	−1	2	26	28	6	−10	−15	12.1
	Minimum	−6	0	2	−7	−8	12	1	24	−9	−20	−10	17	−33	−35	−33	−13	−3	4	−1	−6	−27	−25	−15	−13	−12	12	2	4	−15	−19	−10.9
Lakota	Maximum	13	23	29	19	16	16	21	37	34	−5	5	−5	16	−10	−5	16	....	18	10	7	4	0	0	10	−2	−4	10	10	15	−2	10	[a]7.5
	Minimum	−10	0	−2	15	−15	−10	−15	−14	−5	−18	−23	−20	−32	−38	−33	−25	....	−11	−11	−10	−18	−28	−13	−25	−25	−24	−8	−2	−14	−24	−24	−[a]17.1
Lamoine	Maximum	17	20	28	22	21	20	28	37	34	28	7	7	−10	−18	−4	6	22	21	18	11	0	10	10	−2	7	4	18	20	20	−4	−16	12.3
	Minimum	0	6	3	1	8	0	−15	23	22	−14	−20	−11	22	−38	−31	−22	−3	6	3	0	−20	−32	−12	−18	−12	−8	−3	14	−8	−23	−30	−9.2
Langdon	Maximum	12	22	22	17	4	5	28	36	2	0	−2	−7	10	−25	−11	6	15	9	4	−2	−18	−6	−9	−7	−12	−1	23	24	−4	−12	−15	2.8
	Minimum	−7	5	5	−15	−20	−15	−22	−2	0	−25	−28	−10	18	−45	−43	−30	−3	−20	−15	−26	−20	−34	−30	−32	−35	−35	27	4	−17	−32	−32	−20.7
Larimore §§	Maximum	26	30	30	19	15	9	39	40	2	−1	5	−3	10	−15	−5	10	20	12	12	8	8	0	−5	1	1	0	26	29	5	−13	−13	8.6
	Minimum	2	0	13	−8	−13	−12	−14	0	−1	−16	−25	−12	−15	−38	−35	−29	−6	−9	−8	−16	−16	−25	−14	−25	−25	−25	−6	−2	−12	−22	−22	−13.4
Lisbon §§	Maximum	24	30	22	18	24	36	22	30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	−8	0	10	−10	−15	−10	4	−6	−3	−12	−22	−10	−13	−30	−37	−30	−16	−10	−6	−12	−3	−5	−6	−21	−15	−10	−4	−9	−10	−12	−16	−11.2
McHenry	Maximum	18	24	30	23	0	10	23	38	30	3	22	−3	−5	−16	3	2	11	3	17	2	−3	−4	−5	−7	0	−1	15	27	11	−3	−14	7.9
	Minimum	5	3	−12	−17	−11	−5	15	10	−6	−15	−24	−6	−24	−39	−29	−16	−15	−7	−7	−10	−20	−30	−17	−20	−16	−17	−10	−10	−9	−21	−28	−13.6
McKinney	Maximum	26	30	27	30	15	17	26	41	38	32	20	15	5	−5	6	10	25	22	20	20	10	9	14	12	1	6	25	30	10	−9	−20	16.4
	Minimum	3	10	4	2	−12	−4	−12	22	−12	−13	−17	−13	−25	−37	−25	−17	9	0	−5	−15	−19	−25	−11	−19	−10	−11	1	0	−11	−29	−33	−10.5
Maddock	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Marmarth	Maximum	23	30	30	28	36	33	30	36	40	25	36	....	3	3	6	11	21	28	28	20	14	12	23	22	23	36	30	29	23	1	−22	[a]29.9
	Minimum	1	12	7	4	2	19	14	14	23	8	....	−13	−24	−23	−23	−20	−9	7	18	12	20	31	9	4	15	11	9	10	1	−22	−39	−[a]1.1
Minot §§	Maximum	26	32	29	32	21	29	38	41	34	25	24	4	9	8	5	9	15	23	22	8	−6	3	−1	3	9	12	33	15	10	−15	−22	14.0
	Minimum	1	3	3	2	9	−6	−15	16	25	−9	−18	−9	−22	−35	−33	−22	−13	−2	−1	−6	−11	−26	−25	−18	−18	−5	−5	10	−10	−26	−29	−10.2
Mott	Maximum	20	22	28	31	25	18	29	40	40	27	37	18	−6	−4	2	17	32	28	27	24	−2	6	0	9	15	16	22	28	20	3	−14	17.6
	Minimum	18	−10	0	−1	2	−9	−3	23	21	9	12	−11	−21	−31	−27	−22	−11	12	11	−4	16	29	−21	12	−8	7	8	12	2	−16	−35	−6.0
Napoleon §§	Maximum	23	24	30	22	26	23	28	38	20	20	18	−4	−8	−10	0	10	27	23	18	10	2	−9	16	0	10	10	17	27	12	11	−15	13.5
	Minimum	2	0	5	10	12	−8	−7	8	20	17	−7	8	−22	−35	−31	−15	−10	−5	9	2	−10	−32	−31	14	−12	−3	0	7	−5	−20	−22	−8.0
New England	Maximum	29	32	30	27	29	34	30	24	19	12	9	10	5	6	15	16	34	30	36	23	18	20	31	20	22	25	31	37	19	10	−15	21.5
	Minimum	4	10	12	9	20	18	14	7	10	9	2	−4	−12	−20	−30	−21	−14	−3	8	14	−7	27	11	−14	−6	−3	8	13	1	−15	−38	−1.4
New Salem	Maximum	23	29	30	29	13	24	33	40	45	30	25	−6	−7	−7	−4	−15	28	30	24	16	10	−3	18	8	17	7	22	27	11	−2	−22	16.6
	Minimum	3	10	11	10	−9	3	−5	19	25	−3	−11	−12	−23	−31	−26	−17	−1	−3	11	−5	−18	−30	−1	−12	−15	−5	−3	10	−3	−22	−35	−5.5
Orange	Maximum	24	31	34	31	25	31	34	39	41	30	38	35	−3	−6	−4	−16	30	33	32	25	16	−1	−22	17	14	12	21	29	21	12	−10	22.1
	Minimum	3	7	6	3	−6	16	5	18	26	11	5	−9	−19	−32	−20	−19	−2	−2	−11	−9	−11	−29	−2	−9	−7	−6	−17	−7	−4	−16	−32	−2.2
Oriska	Maximum	26	27	30	21	18	18	41	41	36	5	−5	5	5	−20	−4	−7	7	11	16	16	11	4	−7	−7	−7	−7	−7	15	28	15	−4	−12	10.1
	Minimum	−7	−7	−7	−7	−7	−7	−12	−20	−5	−12	−22	−22	−30	−33	−30	−14	−7	−5	0	0	−18	−22	−16	−16	−20	−15	−15	−12	−4	−14	−30	−9.9
Park River	Maximum	17	21	29	28	−20	11	−22	−40	35	−2	−7	−2	−7	−17	−7	−8	19	13	9	0	−10	−5	−2	−4	....	−3	−7	−25	−14	−5	−13	[a]7.8
	Minimum	−5	12	−2	−13	−16	−14	−16	−0	−3	−15	−12	−8	−17	−35	−31	−38	−13	−10	−0	−18	−19	−45	−14	−25	....	−28	−6	−4	−11	−24	−22	−[a]14.3
Pembina §§	Maximum	−16	−20	−22	−14	−8	−6	−10	−36	−10	−4	−0	−4	−5	−20	−15	−12	−5	−5	−0	−10	−12	−8	−12	−10	−10	−2	−16	−8	−10	−12	−12	−1.0
	Minimum	−6	−0	−8	−12	−16	−18	−5	−0	−4	−22	−20	−5	−20	−44	−40	−20	−5	−18	−10	−28	−20	−20	−22	−28	−30	−22	−12	−14	−26	−22	−20	−16.5
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	19	24	27	27	26	9	26	39	35	10	13	15	3	24	6	8	25	16	14	6	3	−6	−6	4	9	4	21	28	7	−6	−16	11.0
	Minimum	−7	12	1	−10	−14	−6	−19	12	10	17	23	−13	23	−39	−28	−24	1	4	6	−2	−17	−29	−18	19	−5	−12	0	7	−11	−27	−10.9
Turtle Lake	Maximum	19	25	29	26	24	25	30	28	38	32	27	15	8	−12	−1	10	25	20	22	20	12	−4	15	2	7	5	20	30	10	−2	−17	16.1
	Minimum	−2	12	6	5	−7	0	−10	24	27	−7	−12	−13	−20	−31	−21	−19	−3	−2	6	4	−15	−28	−7	−17	−5	−2	2	10	−3	−20	−30	−5.7
Wahpeton §§	Maximum	20	29	26	15	10	11	34	41	36	1	2	10	2	20	14	15	29	20	22	15	0	10	10	12	10	0	10	34	12	5	−5	13.9
	Minimum	−4	2	0	10	8	−7	14	14	11	10	−22	5	8	−33	−36	−26	−15	−4	2	5	10	−27	−18	−16	14	−22	−7	−14	−6	−8	−15	−10.9
Westhope	Maximum	21	23	25	30	2	2	25	39	30	2	10	3	−2	−24	2	10	20	16	13	11	−2	0	−1	−1	−2	5	22	27	2	−5	20	9.1
	Minimum	−5	−5	−5	−10	−12	−15	−16	10	0	−19	−21	−25	−32	−43	−38	−23	−10	−7	2	−10	−28	−29	−18	−25	−10	−2	4	−10	−16	−32	−31	−15.5
Williston	Maximum	23	29	26	30	35	33	30	39	40	14	33	0	−11	9	0	8	25	24	24	15	13	16	16	10	13	14	33	34	−3	−17	25	16.5
	Minimum	4	15	15	−2	5	−3	−1	26	11	3	0	−17	−23	−30	−19	−17	1	0	2	2	−24	−26	−3	−9	−9	5	5	−5	−20	−25	−36	−6.0
Willow City	Maximum	19	22	27	26	1	4	17	38	9	−7	2	1	17	20	−5	9	21	13	9	4	4	4	0	−6	−2	2	22	27	5	−8	−14	6.0
	Minimum	−13	−1	15	15	−19	−7	20	9	5	−16	25	9	20	−41	−31	30	10	−9	2	4	−16	32	−16	24	−14	−18	−2	5	−14	−31	−29	13.9
Zap	Maximum	28	28	29	35	22	30	32	41	40	32	25	15	10	5	2	12	28	28	25	19	11	6	16	10	15	9	27	31	8	−3	15	18.4
	Minimum	5	5	13	9	4	−2	−7	20	30	−2	−9	−10	−22	−33	−26	−25	−3	−6	7	4	15	−30	−2	−12	−15	−3	6	8	3	−21	−35	−6.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

APR 14 1917

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

FEBRUARY, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 27, 1917.

Departure of the Mean Temperature from the Normal, February, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., FEBRUARY, 1917. No. 2.

GENERAL SUMMARY.

Unusually severe weather conditions prevailed over the entire State during the greater portion of the month. The temperature averaged decidedly below the normal, being the lowest for February, with but a single exception (1904) in the Climatological history of the State. There was more than the usual cloudiness, the precipitation was above the normal, and the wind movement was excessive. This combination of conditions resulted in the loss of several human lives, much loss and suffering of livestock, and one of the worst delays in railway and wagon traffic in years.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.20 inches. The highest was 31.06 inches at Williston on the 1st; the lowest was 28.75 inches at Devils Lake on the 16th.

TEMPERATURE.

The mean temperature for the State was -0.7°, or 8.6° below the normal, and 7.1° lower than the mean for February, 1916. The highest mean reported was 9.0° at Bowman, Bowman County; the lowest was -11.2° at Pembina, Pembina County. The highest temperature reported was 61° at Bowman, Bowman County, on the 6th; the lowest was -48° at Taylor, Dunn County, on the 2d. The greatest monthly range of temperature was 102° at Bowman, Bowman County; the least was 56° at Pembina, Pembina County. The greatest daily range was 62° at Dunseith, Rolette County, on the 20th. Usually the highest temperature occurred on the 16th, and the lowest on the 2d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 86 per cent, the average at 7 a. m. being 88 per cent, and at 7 p. m. 84 per cent.

PRECIPITATION.

The average precipitation for the State was 0.66 inch, or 0.17 inch above the normal, and 0.20 inch more than the average for February, 1916. The greatest monthly amount reported was 1.59 inches at McHenry, Foster County; the least was a trace at Bowman, Bowman County. The greatest amount recorded in any twenty-four consecutive hours was 0.80 inch at Bowbells, Burke County, and at Garrison, McLean County, on the 16th. Practically all of the precipitation occurred in the form of snow. The average snowfall for the State was 7.1 inches. The average number of days with 0.01 inch or more of precipitation was 5. The precipitation was fairly evenly distributed, both geographically and throughout the month. Particularly stormy periods were from the 2d to the 9th, inclusive, and from the 15th to the 26th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.8 miles. The greatest wind movement was 8,018 miles at Bismarck, an average of 11.9 miles per hour; the least was 6,280 miles at Williston, an average of 9.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 60 miles per hour from the north at Devils Lake on the 16th.

SUNSHINE AND CLOUDINESS.

There was more than the usual cloudiness; the average number of clear days was 10, partly cloudy days 8, and cloudy days 10.

ERRATA, JANUARY, 1917.

Page 4: McLeod, mean temperature should be 0.7°; Minot, mean temperature and departure should be 2.0°, -3.8°.

Page 5: Berthold Agency, precipitation on the 25th, 28th, 29th, and 30th should be trace each date; McLeod, precipitation on the 6th should be trace; Marmarth, precipitation on the 11th and 22d should be trace each date.

Page 6: Bismarck, maximum temperature on the 20th should be 14°; Minot, maximum temperature on the 30th should be -10°, and mean maximum, 14.1°.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	10.0	+2.5	62	-41	0.58	+0.08	4	14	7	8	nw.
1893...	- 0.3	-7.8	52	-54	0.59	+0.09	4	12	7	9	nw.
1894...	8.0	+0.5	55	-40	0.22	-0.28	2	14	9	5	nw.
1895...	5.9	-1.6	65	-50	0.36	-0.14	4	13	7	8	nw.
1896...	14.8	+7.3	64	-29	0.44	-0.06	3	12	9	8	nw.
1897...	6.1	-1.4	52	-40	1.15	+0.65	7	12	7	9	nw.
1898...	13.3	+5.8	65	-34	0.46	-0.04	3	13	8	7	nw.
1899...	0.4	-7.1	68	-48	0.20	-0.30	3	14	8	6	nw.
1900...	1.3	-6.2	46	-48	0.47	-0.03	4	12	9	7	nw.
1901...	7.1	-0.4	60	-31	0.31	-0.19	3	15	7	6	nw.
1902...	12.1	+4.6	51	-33	0.98	+0.48	6	10	6	12	nw.
1903...	3.1	-4.4	46	-49	0.38	-0.12	3	19	4	5	nw.
1904...	- 2.1	-9.6	52	-42	0.54	+0.04	5	13	6	10	nw.
1905...	8.2	+0.7	64	-46	0.30	-0.20	2	19	4	5	nw.
1906...	9.8	+2.3	57	-38	0.13	-0.37	2	13	8	7	nw.
1907...	10.7	+3.2	58	-49	0.27	-0.23	3	15	7	6	nw.
1908...	13.9	+6.4	62	-34	0.99	+0.49	5	12	7	10	nw.
1909...	9.6	+2.1	56	-34	0.34	-0.16	4	11	7	10	nw.
1910...	3.4	-4.1	56	-50	0.50	0.00	4	14	7	7	nw.
1911...	7.3	-0.2	55	-38	0.73	+0.23	3	15	8	5	nw.
1912...	11.8	+4.3	48	-33	0.15	-0.35	2	10	9	10	nw.
1913...	8.5	+1.0	64	-44	0.10	-0.40	2	12	9	7	nw.
1914...	1.0	-6.5	57	-47	0.34	-0.16	3	12	8	8	nw.
1915...	17.4	+9.9	50	-20	0.62	+0.12	3	9	5	14	nw.
1916...	6.4	-1.1	55	-39	0.46	-0.04	4	14	8	7	nw.
1917...	- 0.7	-8.6	62	-48	0.66	+0.17	5	10	8	10	nw.

Climatological Data for February, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie		2	1.6		41[a]	16	−44	2	40	0.53		0.31		2	8	13	7	w.	M. B. Johnson.
Amenia	Cass	954	21	− 2.7	−10.5	36	16	−36	2	40	0.85	+0.47	0.20	8.5	6	17	0	11	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	2.0	−6.4	42	16	−38	2	43	0.50	+0.05	0.30	5.0	2	9	6	13	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	5.6	−8.8	40	16	−43	2	61	0.10	−0.47	0.04		3	17	5	6	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	1.8	−7.5	41	16	−45	2	40	0.90	+0.23	0.36	9.7	5	10	12	6	nw.	C. L. Hall.
Bierman	Slope		1	6.0		43	16	−37	1	53	1.46		0.75	8.0	9	6	7	15	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	1.8	−6.5	46	16	−39	2	42	0.44	−0.06	0.23	6.9	10	7	6	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	− 4.7	−6.8	36	16	−42	2	48	0.51	+0.10	0.15		11	12	5	11	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	− 4.7		35[a]	16	−43	2	40[a]	0.99		0.80		2	15	0	13		G. H. Phelps.
Bowman	Bowman		3	9.0		61	6	−41	2	49	T.		T.	0	0	12	0	16	nw.	L. S. Diehl.
Buford	Williams	1,944	38	− 1.0	−11.7	41	16	−44	2	51	0.30	−0.19	0.22		5	7	11	10	nw.	P. Elmore.
Cando	Towner	1,488	16	− 5.4[b]	−8.8	42[b]	16	43[b]	2	49[c]	0.55	+0.33	0.20		5				nw.	E. T. Judd.
Carson	Grant	2,500	5	2.6		44	16	−42	2	35	0.11		0.05	1.1	4	7	12	9	nw.	J. W. Evens.
Colgate	Steele	1,177	3	1.6[a]		40[a]	16	36	2	48[a]	0.51		0.20	4.9	8	14	8	6	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7								0.50	+0.15	0.20	5.0	3	11	8	9	w.	S. Friswold.
Crosby	Divide	1,954	10	0.2	−7.6	34	6†	38	2	46	0.47	+0.22	0.20	4.8	6	13	6	9	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	− 3.8	−8.3	40	16	−40	2	46	0.68	+0.15	0.15	9.1	10	6	10	12	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	3.4	−8.5	42	16	−44	2	48	0.23	−0.26	0.10	2.7	4	9	6	13	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	18	− 0.6	−8.6	38	16	−41	2	32	0.25	0.40	0.15	2.5	2	13	6	9	nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	− 4.7	−8.4	35	7	−42	2	62	0.60	+0.15	0.40	6.0	2	14	11	3	nw.	J. G. Lamont.
Eckman	Bottineau		12	− 5.6[a]	−12.0	40[a]	16	−47[a]	3	55[a]	1.00	+0.66	0.30	10.0	5				nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	2.8	−8.1	42	13	−34	2	46	0.45	+0.12	0.14		5	0	8	20	nw.	O. A. Thompson.
Energy ††	McLean		5								0.11		0.06	5.0	4	7	12	9	nw.	N. W. Solenberger.
Epping	Williams	2,224	9								0.90		0.34	12.5	8	15	4	9	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	− 2.6		38	17	−46	3	43	1.08		0.20	10.5	7	8	10	10	nw.	G. T. Seymour.
Forman	Sargent	1,249	25	4.8[f]	−4.9	38[a]	17	−32[k]	2	46[k]	0.40	−0.03	0.20	4.0	2				nw.	A. Maltby.
Fullerton	Dickey	1,439	19	3.4	−5.9	41	16	−35	2	46	1.32	+0.59	0.35	13.2	6	6	11	11	nw.	F. O. Alin.
Garrison	McLean	1,901	22	0.0	−8.5	40	16	−42	2	32	1.50	+0.86	0.80	4.2	5	9	11	8	nw.	G. L. Robinson.
Goodall	McKenzie	2,200	3	0.2		40	16	−45	2	37	0.55		0.45		2	8	9	11	nw.	C. H. Layman.
Grafton	Walsh	827	25	− 6.2	−12.1	31	7	−39	2	55	0.91	+0.37	0.18	10.1	7	17	0	11	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	− 4.6	−11.9	37	16	−35	2	46	1.12	+0.62	0.35	10.8	7	17	10	1	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	1.4		41	16	−38	2	39	0.50		0.30	5.0	2	8	7	13	nw.	G. H. Leick.
Granville	McHenry	1,504	10	0.2	−8.2	40	16	−40	2	40	1.45	+1.22	0.40	14.5	9	8	15	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	− 7.4	−9.4	26	14	−43	2	33	1.00	+0.47	0.50	10.0	3	12	13	3	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	− 2.8[d]		30[d]	27	−40[d]	2	53[d]	0.50		0.30	5.0	2				nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9																	A. J. Ogaard.
Hillsboro	Traill	901	11	− 1.8	−10.3	38	17	−35	2	54	1.40	+0.70	0.30	14.0	9	10	12	6	nw.	F. E. Mayall.
Howard	Williams	2,275	10	− 4.5	−11.6	36	16	−44	2	38	0.60	−0.12	0.40	6.1	3	13	6	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	− 0.7	−8.9	42	16	−39	2	50	0.49	−0.11	0.40	4.9	5	11	5	12	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	− 3.8	−8.8	36	16	−41	2	33	1.38	+0.94	0.50	25.5	8	15	8	5	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	− 2.1	−9.8	39	16	−45	2	45	0.40	+0.07	0.40	4.0	1	9	14	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	− 8.2	−12.1	26[a]	7	−45	2†	45[a]	1.10	+0.28	0.30	11.0	8	22	0	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	− 3.2	−8.9	38	16	31	1	37	1.12	+0.79	0.45	7.5	5	14	2	12	nw.	G. G. Graham.
Lisbon	Ransom	1,091	13	3.4[e]	6.2	41[e]	16	32	1	37[e]	0.55	−0.26	0.20	5.5	4				nw.	W. S. Adams.
McHenry	Foster	1,509	7	− 3.3		37	16	−40	2	35	1.59		0.40	14.0	8	19	1	8	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	0.2	−4.5	38	16	43	2	37	0.37	+0.06	0.12	3.7	4	4	20	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	1.3		43	16	−35	2	34	1.30		0.40	13.0	10	12	1	15	nw.	R. D. Markland.
Maddock	Benson		2	− 1.6		37	16	−44	2	50	0.66		0.53	6.6	2	1	7	20	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	2.2		45	16	−40	2	41	0.19		0.08		6					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	− 0.6	−7.9	38	16	−40	2	36	0.52	+0.09	0.15	8.0	9	8	9	11	nw.	P. B. Anderson.
Manning	Dunn	2,450	2																	A. J. Bretzlaff.
Marmarth	Slope		8	5.2[a]		40[a]	16	−40[a]	1	50[a]	0.64		0.30	7.5	10	5	10	13	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	− 2.0[a]		40[a]	16	−45[a]	2	49[a]	0.60		0.20	4.0	7	6	10	12	nw.	H. H. McCumber.
Mayville	Traill	975	21	− 1.4	−9.8	39	17	−36	2	35	0.80	+0.40	0.40		8	13	5	10	n.	W. C. Gould.
Medora	Billings	2,225	23																	J. O. Gray.
Melville	Foster	1,590	19	1.0[a]	−6.2	38[a]	16	38[a]	2	53[a]	0.50	+0.15	0.30	5.0	2				nw.	J. P. Kidder.
Milnor	Sargent	1,097	5								0.37		0.22	4.0	2	10	7	11	nw.	Hj. Edman.
Minot	Ward	1,557	21	− 0.8	−9.1	43	16	−43	2	57	0.70	+0.20	0.25	7.0	4	7	10	11	nw.	W. I. Faris.
Minto	Walsh	820	24	− 6.2	12.1	35	15	−40	2	43	0.29	−0.27	0.13		5	20	1	7	nw.	C. M. Evans.
Mott	Hettinger	2,424	10	0.8	−12.1	41	16	47	2	50	0.83	+0.31	0.37		9	9	7	12	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	− 0.2	−7.0	44	16	43	2	41	0.15	−0.30	0.10	3.0	2	9	2	17	nw.	C. J. Hoof.
New England	Hettinger	2,400	23	3.0	−9.3	48	16	40	2	58	0.30	0.39	0.30	3.0	1	2	20	6	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	0.4	−10.9	46	16	45	2	55	0.65	+0.30	0.30	6.4	6	8	12	8	nw.	J. Christiansen.
Orange ††	Adams	2,586	8	3.9		43	16	47	2	39	0.10		0.10	1.0	1	5	6	17	nw.	T. F. Young.
Oriska	Barnes	1,270	12																	J. J. Taylor.
Park River	Walsh	998	13	− 3.2	−8.9	30	7	−35[d]	2	36[d]	1.18	+0.77	0.40		11	17	2	9	nw.	O. J. Sicker.
Parshall	Mountrail		2								0.09		0.09	0.9	1					J. A. Johnson.
Pembina	Pembina	789	43	−11.2	13.0	20	27	−36	1	30	0.80	+0.05	0.40	8.0	5	8	9	11	nw.	C. W. Shumaker.
Power	Richland	1,020	25																	J. H. Radcliffe.
Powers Lake	Burke	2,205	2								1.10		0.45	11.0	5	1	13	14	nw.	C. Frank.
Steele	Kidder	1,857	20	− 0.4	7.2	45	16	−40	2	34	0.43	−0.04	0.13		6	4	16	8	nw.	H. S. Wood.
Taylor	Stark	2,493	1	2.5[a]		41[a]	16	−48[a]	2	45[a]	0.45		0.22		9				nw.	H. Leutz.
Towner	McHenry	1,482	15	− 1.6	−7.3	39	16	−44	2	49	0.40	−0.01	0.20	4.0	2	10	12	6	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	0.5		40	16	−41	2	42	0.40		0.30	4.0	2	7	18	3	nw.	E. J. Jones.
Wahpeton	Richland	962	23	0.4	10.0	45	16	−37	2	44	0.39	−0.16	0.10		7	11	2	15	nw.	F. E. Smith.
Walhalla	Pembina	966	10	− 3.8	7.6	33	7	−36	2	38	0.80	+0.31	0.60	8.0	2	13	7	8	n.	Ivan Lee.
Washburn	McLean	1,734	18	2.3	−7.8	43	16	38	2	50	0.84	+0.45	0.70	8.4	5					J. T. McCulloch.
Westhope	Bottineau	1,508	11	− 4.0	−7.9	35	16	43	2	53	0.25	+0.02	0.25		1	3	20	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	− 0.2	−8.1	42	16	40	2	42	0.67	+0.20	0.46	5.6	8	9	12	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	− 3.4	−6.8	37	16	38	1	34	0.75	+0.35	0.20	7.5	7	5	13	10	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	− 0.1		43	16	45	2	39	0.36	−0.37	0.14	7.9	6	3	12	13	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	− 0.4	7.4	39	16	−32	2	38	0.85	+0.12	0.19	7.8	11	12	9	7	nw.	U. S. Weather Bureau.
Averages				− 0.7	−8.6	61	6	−48	2	62	0.66	+0.17	0.80	7.1	5	10	8	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for February, 1917.

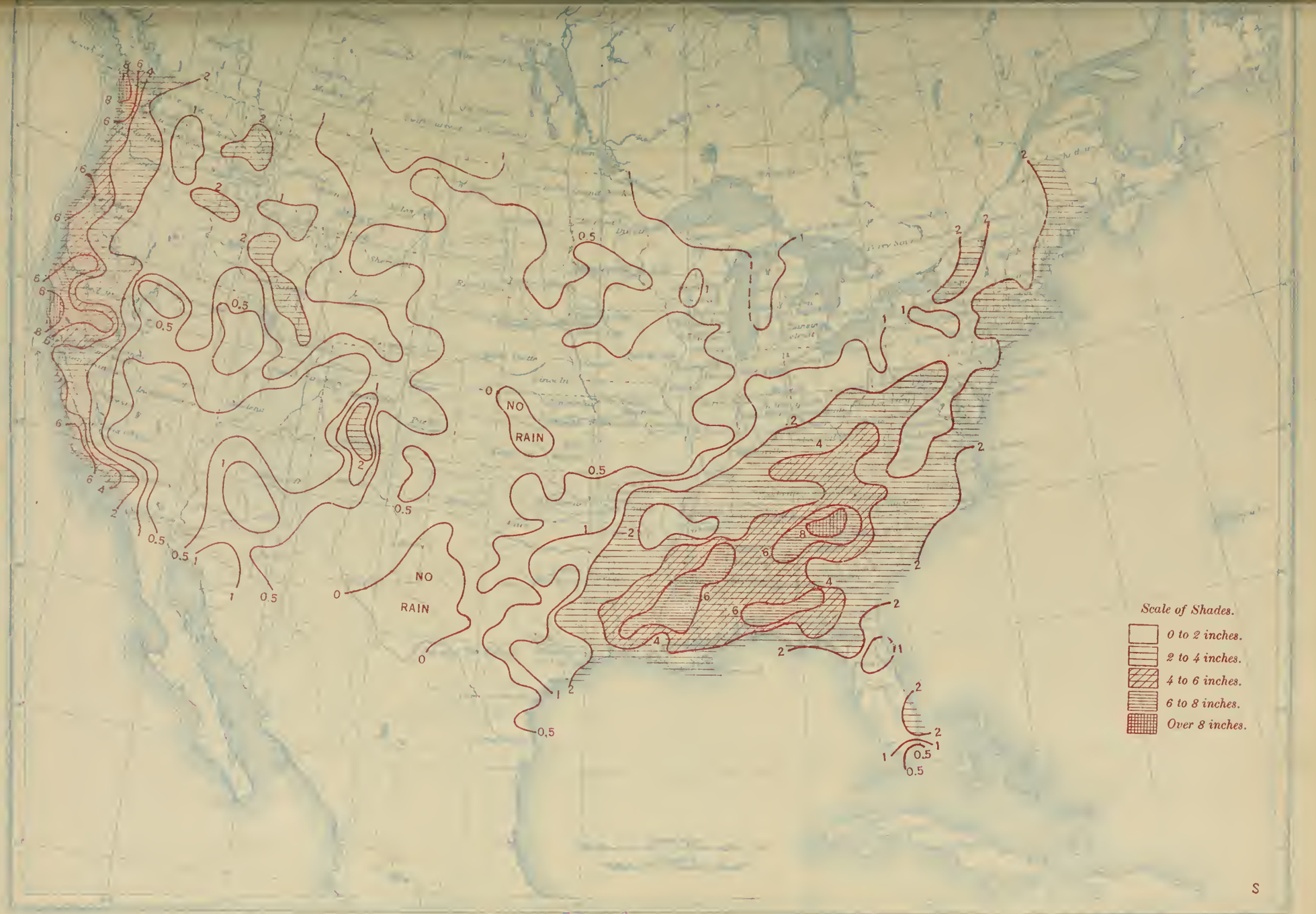
Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri																.31									.22							0.53
Amenia ‖ ‖	Red				.20	.10											.10	.10		.15		.20				T.	T.						0.85
Ashley	Missouri				.20															.30													0.50
Beach	Lit. Missouri					.04			.02								.04																	0.10
Berthold Agency	Missouri		T.	T.	.26			.05		.10			T.		T.		T.		T.	T.	T.	.13				.36			T.				0.90
Bierman	Lit. Missouri	.29		*	.75	.02				.04						.05										.18		.08	.09					1.46
Bismarck ***	Missouri		T.	.03	.05	.01	T.	T.		T.				T.	T.	T.	T.		.01	.01	.04		.02		.06	.17	.04							0.44
Bottineau ‖ ‖	Mouse		T.	.01	.15	.04	.03			.01						.01	.06	.09				.03	.03	T.		T.	.05	T.							0.51
Bowbells ‖ ‖	Mouse																.80												.19					0.99
Bowman	Grand					T.																												T.
Buford	Missouri		.01					.02		.03							.02						T.			.22			T.					0.30
Cando	Sheyenne															.02		.16				.20	.10			.07								0.55
Carson	Heart									.02							T.						.02		.02	.05								0.11
Colgate	Sheyenne			.08				.01									.02	.02	T.	T.	.01		.02			.20	.15							0.51
Cooperstown	Sheyenne	.10			T.			T.								T.	T.				.20				.20									0.50
Crosby	Mouse			.05						.02							.10				.02					.20	.08							0.47
Devils Lake ***	Sheyenne			.05	.01		.06	T.						T.	T.	T.	.11	.02		T.	.06	.08	.15			.13	.01							0.68
Dickinson ‖ ‖	Heart						.03		.02	T.	.08			T.						T.			T.			T.	.10							0.23
Donnybrook	Mouse							T.										.10			T.		T.			.15								0.25
Dunseith	Mouse			.20																			.40											0.60
Eckman	Mouse			*	.30						.30		T.				.20									.20								1.00
Edgeley	James	.09			.09															.05	.14					.08								0.45
Energy	Missouri				.06			.02								.01	T.		T.		.02													0.11
Epping	Missouri				.25			.04		.02	.02						.10	.05					.08		.34									0.90
Fessenden ‖ ‖	James		.20	T.	T.	.10	T.	T.	T.	T.				T.			.15	T.		T.		.10	T.	.18		.15	.20							1.08
Forman	Sheyenne															T.			T.	.20						.20								0.40
Fullerton	James	.30		T.	.24		T.		T.	T.										.35	.10	.25	T.		T.	.08	T.							1.32
Garrison	Missouri								.05					T.		T.	.80	.35	T.	T.	T.	T.	.10			.20								1.50
Goodall	Missouri							T.		.10																.45								0.55
Grafton ‖ ‖	Red			.07												.17	.13					.16	.11	.18			.09							0.91
Grand Forks	Red			.13										T.		.08	.17	T.			.14		.24			.35	.01		T.					1.12
Grand Rapids	James							T.												.30					.20		T.							0.50
Granville	Mouse	.10	.05		*	.20			T.								T.	.10			.10	.20	.30			.40								1.45
Hannah	Pembina				.50									T.	T.		.40					.10													1.00
Hansboro	Red																.30									.20								0.50
Hettinger	Grand																																	.....
Hillsboro	Red			.10	.20											T.	.10	.10		.15		.30	.10			.30	.05							1.40
Howard	Missouri		T.				T.	.10		.10			T.		T.		T.					T.	T.			.40								0.60
Jamestown ‖ ‖	James				T.		*	.05						.02			T.					.02	T.				.40							0.49
Lakota	Sheyenne			.04	.12			T.						.02			.50	.16				.16	.08			.40								1.48
Lamoine	Missouri					T.	T.	T.							T.	T.		T.	T.	T.	T.					.40								0.40
Langdon ‖	Pembina					.10									.05	.10		.20				.10	.20	.30			.05							1.10
Larimore ‖	Red			.15													.07					.45		.30		.15								1.12
Lisbon ‖	Sheyenne	.05			.20		T.							T.		T.	T.					T.		T.		.10	.20							0.55
McHenry	James				.14	.21	.20	T.						T.		.16	.18	.10	T.	T.			.20			.40								1.59
McKinney	Mouse		T.					.10								.10		.05								.12								0.37
McLeod	Sheyenne				.40	.05	.05	.05	T.										.20	.10		.10	.05	T.		.20	.10							1.30
Maddock	Sheyenne																						.53			.13								0.66
Mandan ‖ ‖	Missouri	T.			.02		T.		T.							T.				.01		.02		.01		.08	.05							0.19
Manfred	Sheyenne			.02	.10		T.	.02						T.		.02	T.	.03	T.	.03		T.	.15			.10	.0							0.52
Manning	Knife																																	.....
Marmarth	Lit. Missouri		T.		.30	.03	.02	T.	.05	.05			.04			.03	T.		T.			.02	.03		T.	T.	.07		T.					0.64
Marstonmoor	James		T.	T.	T.	T.	T.	.05						T.	T.	.05	.20	T.	T.	.05	T.	T.	.05	T.		.10	.10							0.60
Mayville	Red			.10											.01	.02		.05			.05		.15			.40	.02							0.80
Medora	Lit. Missouri																																	.....
Melville	James							T.								T.	T.						.20			.30								0.50
Milnor	Red				T.									T.			T.			T.		.22	T.		T.	.15	T.							0.37
Minot ‖	Mouse								T.								.10						.15		.20		.25							0.70
Minto	Red			.13	.04									T.								.01				.08	.03							0.29
Mott	Cannon Ball			.26		T.	.02	.02		.06								.02			.03	.03		.02	T.	.37								0.83
Napoleon ‖	Missouri																			.05						.10								0.15
New England	Cannon Ball				.30																													0.30
New Salem	Heart			T.	.15	T.	T.	T.		.04				T.	T.	T.	T.		T.	.05	T.	.03	.08			.30			T.					0.65
Orange	Cannon Ball			.10																														0.10
Oriska	Sheyenne																																	.....
Park River	Red	T.		.02	.07		.01	.02							.01	T.	.13	.40				.20	.13		.12	.07								1.18
Parshall	Missouri															.09																		0.09
Pembina ‖	Red				.20												.40					.10							.05	.05				0.80
Power	Sheyenne																																	.....
Powers Lake	Missouri				.45				.15									.10						.10		.30								1.10
Steele	Missouri		.12											T.	T.		T.	T.	.04	.10	.02	.02	T.			.13			T.					0.43
Taylor	Heart			.05	T.	.02		.01	.01	.02						T.	T.	.04	T.	T.	.04		.04				.22							0.45
Towner	Mouse																						.20			.20								0.40
Turtle Lake	Missouri		T.	T.	T.	T.			T.	T.														.10			.30							0.40
Wahpeton ‖	Red		.10		T.	.08	T.		T.									.03	T.	T.	.06		.03	T.	T.		.06	.03		T.				0.39
Walhalla	Pembina				.20													.60																0.80
Washburn	Missouri									.05									.70	.05					.02		.02								0.84
Westhope	Mouse																										.25								0.25
Williston ***	Missouri		.03	.04	.02		T.	.02		.05				T.			.05	T.		T.	T.		T.		.02	.44								0.67
Willow City	Mouse	T.			.20											.05	.05	.10			T.	.05	.10			.20		T.						0.75
Zap	Knife		.01					.10		.06							T.			T.			.02	.03		.14								0.36
Moorhead, Minn ***	Red			.05	.05						T.					.03	.15		.06	.13		.18	.02		.02	.14	.02							0.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	....	− 8	− 8	− 6	24	33	35	13	12	9	13	18	25	24	31	41	24	6	10	11	5	− 2	4	11	7	4	16	16	....	....	....	[a]13.6
	Minimum	−42	−44	−19	−25	−16	16	12	−15	−13	−20	−24	− 1	5	13	11	23	12	−25	−12	7	17	11	−22	17	5	14	−13	− 1	....	....	....	−10.5
Amenia §§	Maximum	−17	−11	14	11	11	29	29	8	4	4	0	18	18	30	27	36	0	7	3	11	5	14	5	13	11	11	17	13	....	....	....	9.7
	Minimum	−29	−36	−35	18	−21	−15	− 8	−16	−21	−20	−27	−22	− 4	− 1	2	0	−12	−18	−14	−22	−21	−12	−13	−14	−13	− 5	−13	−12	....	....	....	−15.1
Ashley	Maximum	−25	−25	− 5	− 4	12	26	34	17	7	3	4	23	22	30	28	42	35	4	5	8	9	23	4	12	12	6	15	14	....	....	....	12.0
	Minimum	−35	−38	−28	−22	−12	10	17	−10	−12	−18	−25	− 4	10	15	16	20	− 8	10	− 4	−22	− 6	− 8	−16	−15	− 5	− 4	−10	− 6	....	....	....	− 7.9
Beach	Maximum	−20	18	23	− 9	31	33	36	20	15	10	26	20	22	23	32	40	20	8	13	14	0	6	8	26	24	11	13	15	....	....	....	17.1
	Minimum	−42	−43	−17	−23	−15	24	12	6	0	− 8	−10	4	8	8	16	20	−10	−20	− 4	−11	−12	−24	−10	− 1	10	− 8	0	−15	....	....	....	− 5.9
Berthold Agency	Maximum	−20	− 6	− 2	− 1	22	36	37	20	15	6	12	22	24	34	32	41	− 7	10	12	7	13	6	2	20	13	11	17	19	....	....	....	14.1
	Minimum	−36	45	−16	−23	−16	14	13	−18	−14	−28	−27	− 5	10	15	12	22	−10	−23	−13	− 8	10	− 6	−22	20	− 5	−12	−12	− 8	....	....	....	−10.4
Bismarck	Maximum	−24	− 8	− 4	− 3	16	30	36	3	8	4	6	20	24	29	30	46	4	5	7	10	9	5	4	12	10	4	17	13	....	....	....	11.3
	Minimum	−33	−39	−17	−20	−12	16	0	− 8	− 8	−14	−23	3	10	18	14	4	− 9	−10	− 7	−10	− 5	− 9	−15	−13	− 4	−10	−10	− 6	....	....	....	− 7.8
Bottineau §§	Maximum	−27	−13	−13	− 5	22	29	24	16	0	2	3	18	20	25	23	36	12	1	5	0	1	− 1	− 3	− 3	8	2	16	9	....	....	....	7.4
	Minimum	−38	−42	−37	−26	−20	−13	16	−20	−21	−22	−25	−13	− 1	5	10	12	−19	−30	−20	−21	−18	−23	−24	−26	−24	− 4	−13	−13	....	....	....	−16.8
Bowbells §§	Maximum	−36	−24	−22	0	18	0	0	10	4	8	22	16	20	26	20	35	10	3	2	5	− 2	− 4	20	6	16	1	16	....	....	....	....	[a] 6.2
	Minimum	−41	−43	−41	−26	−20	0	−22	−20	−18	−20	−10	− 5	− 2	−10	10	5	−20	−26	−23	−17	−20	−15	−20	− 8	−16	− 1	−16	−11	....	....	....	−15.6
Carson	Maximum	−10	− 8	−10	− 5	20	30	35	25	10	2	4	20	20	30	30	44	27	15	10	8	10	5	5	5	7	5	17	15	....	....	....	13.1
	Minimum	−38	−42	14	−21	−15	11	15	−10	−10	−18	19	1	7	13	10	25	− 7	−11	− 3	− 7	− 8	−11	−20	−15	1	−11	−13	− 8	....	....	....	− 7.9
Colgate	Maximum	−15	−15	....	− 5	....	....	26	....	....	....	....	....	....	30	32	40	20	....	....	10	8	12	5	....	....	10	20	....	....	....	....	[a]12.7
	Minimum	−34	−36	−15	−11	−10	−10	5	− 8	−18	−18	−32	−17	10	7	18	18	−14	−11	−15	20	−12	− 5	−12	−18	4	− 5	−12	1	....	....	....	− 9.6
Crosby	Maximum	−20	−20	−10	−10	15	34	30	0	10	3	25	20	25	24	34	34	− 5	5	15	12	10	12	4	12	14	− 4	15	18	....	[a]	....	10.8
	Minimum	−33	−38	−24	−22	−20	−15	20	−14	− 5	−14	−21	− 5	12	9	10	26	20	23	22	12	16	−14	−20	−18	− 4	19	14	− 6	....	....	....	−10.4
Devils Lake	Maximum	−22	15	−15	− 6	12	25	29	− 4	− 1	− 1	2	16	20	25	22	40	− 6	1	2	2	2	− 3	− 3	3	3	3	14	10	....	....	....	5.5
	Minimum	−37	−40	20	−24	15	12	−13	−18	−20	−19	−22	− 9	10	13	11	− 6	−19	−22	−16	−18	−11	−11	−19	−17	− 7	− 9	−11	− 8	....	....	....	−13.0
Dickinson	Maximum	−29	− 4	10	22	28	30	34	20	14	7	9	20	20	28	37	42	9	4	8	9	4	3	3	15	2	5	15	14	....	....	....	13.8
	Minimum	−38	−44	−11	−22	−15	20	20	− 8	− 7	−15	−24	− 3	4	12	12	26	− 7	−13	− 7	− 5	10	− 3	−19	14	− 1	−11	−11	− 2	....	....	....	− 7.0
Donnybrook	Maximum	−24	−12	−10	− 7	16	27	31	7	4	1	5	17	22	24	26	88	10	10	3	6	4	0	3	11	10	2	16	11	....	....	....	9.0
	Minimum	−37	−41	−23	−24	−10	15	5	−12	− 7	−11	−21	0	12	13	14	9	−14	−22	−19	−16	−16	−14	−19	−15	− 5	−14	− 8	− 9	....	....	....	−10.3
Dunseith	Maximum	−10	−15	−13	− 8	8	30	35	18	6	6	4	20	15	10	− 8	− 8	15	8	5	32	26	22	5	6	10	12	10	−12	....	....	....	8.2
	Minimum	−37	−42	−39	−33	−20	0	0	−12	−15	−12	−28	−10	− 2	−20	−30	−20	10	−17	−36	−30	12	−10	−17	−15	− 8	0	−22	−26	....	....	....	−17.6
Edgeley	Maximum	−15	14	− 6	− 3	15	26	33	14	3	4	3	23	23	30	29	42	9	4	8	9	4	3	3	15	2	5	15	14	....	....	....	13.8
	Minimum	−33	−34	−22	−31	−11	8	13	−12	15	14	24	0	13	14	18	16	− 7	8	− 3	−22	− 2	− 8	−13	−12	6	− 4	− 8	1	....	....	....	− 6.9
Fessenden §§	Maximum	−25	− 7	16	− 6	20	30	26	15	4	2	9	18	23	22	31	38	10	4	8	3	0	− 2	2	11	10	5	16	13	....	....	....	9.4
	Minimum	−36	42	46	−26	−19	−13	15	−18	−17	−20	−21	−15	5	9	15	10	−14	−25	−11	−21	−19	−11	−20	−20	−17	− 8	−13	− 8	....	....	....	−14.5
Forman	Maximum	− 4	6	− 5	....	10	25	34	10	3	6	5	22	33	31	28	36	38	9	6	6	15	31	14	15	17	11	17	15	....	....	....	[a]15.6
	Minimum	−27	−32	17	....	....	....	....	....	....	....	....	....	....	....	....	19	12	− 8	8	1	17	2	− 4	−10	11	10	2	−10	− 3	....	....	....	−[k] 5.9
Fullerton	Maximum	13	− 9	5	− 2	10	26	33	10	4	4	4	22	24	31	27	41	39	4	3	8	12	27	4	12	14	7	13	10	....	....	....	12.9
	Minimum	−33	−35	−21	−12	− 8	6	10	−13	14	−16	−21	1	14	14	14	17	− 7	− 8	− 3	−17	− 2	5	−12	−12	5	− 3	− 8	1	....	....	....	− 6.0
Garrison	Maximum	−22	−15	5	−12	18	27	30	8	7	....	5	18	22	24	28	40	28	2	5	5	4	1	3	9	7	3	15	15	....	....	....	[a] 9.9
	Minimum	−37	−42	−18	−23	18	12	8	−16	−10	....	−27	− 3	12	16	12	16	12	−21	−12	−14	−12	8	−20	−20	− 5	−10	−15	− 8	....	....	....	−[a]10.0
Grafton §§	Maximum	−13	−15	−13	1	17	31	20	2	2	0	− 2	20	21	29	25	29	10	1	2	5	2	− 1	− 2	7	5	7	15	8	....	....	....	7.5
	Minimum	− 28	−39	−37	−25	−20	−15	− 2	−21	25	−27	−34	−35	− 8	3	12	10	−19	−31	−31	29	−25	−20	−19	−27	−29	− 8	11	12	....	....	....	19.9
Grand Forks	Maximum	17	17	16	− 6	11	18	29	1	− 5	− 2	− 5	16	13	26	22	37	1	1	1	4	8	3	− 4	5	6	8	14	10	....	....	....	5.8
	Minimum	− 29	−35	−20	21	−13	6	17	20	−24	−20	−30	16	4	8	10	1	−21	27	20	−26	−18	−18	−16	23	− 7	− 6	−10	−12	....	....	....	−15.0
Granville	Maximum	−25	− 10	−10	10	18	28	28	5	8	8	10	25	30	27	25	40	24	10	8	8	0	− 4	18	8	12	8	15	15	....	....	....	11.4
	Minimum	− 34	−40	−20	−24	−12	5	− 8	−12	−12	−15	−20	− 8	15	15	15	24	16	−23	−20	18	−14	−12	−18	− 8	−10	− 5	....	....	....	....	....	− 10.9
Hannah	Maximum	− 19	−16	17	− 4	10	15	11	− 9	0	6	7	16	18	26	22	15	− 5	− 2	1	6	0	2	− 3	1	− 3	5	12	5	....	....	....	3.5
	Minimum	− 39	−43	36	−20	−10	3	− 14	−20	−30	−27	−18	−12	3	12	15	5	21	−32	−26	18	−26	−24	−21	−25	−21	−18	−16	11	....	....	....	−18.2
Hansboro	Maximum	21	−19	....	5	15	20	20	− 5	6	0	....	20	18	25	....	28	25	15	− 5	3	0	....	8	16	17	15	30	15	....	....	....	[d] 9.3
	Minimum	−38	−40	....	−30	−28	0	− 6	[a]16	−20	−30	....	−10	6	10	....	0	−28	−30	−30	−26	−27	....	2	−18	− 4	− 5	17	−10	....	....	....	−[d]14.8
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard	Maximum	−28	9	− 9	− 10	15	35	28	3	12	− 4	3	13	16	20	27	36	9	− 3	1	5	4	− 8	− 4	7	0	− 6	10	9	....	....	....	6.0
	Minimum	− 42	−44	−23	−35	−21	− 3	3	−20	−14	−25	−23	− 1	13	10	9	9	−18	−27	−18	−12	−20	−15	−27	−20	− 6	−22	−14	−14	....	....	....	−15.0
Jamestown §§	Maximum	20	10	7	− 7	21	30	30	12	1	2	8	23	22	28	34	42	14	10	4	6	− 2	10	2	14	11	5	14	9	....	....	....	11.4
	Minimum	− 31	−39	−37	20	−20	−11	12	15	−10	−18	−24	27	6	12	17	14	−10	−17	16	−19	18	18	−14	−14	−13	− 8	−10	−10	....	....	....	−12.8
Lakota	Maximum	−14	−16	−14	− 5	8	20	27	− 5	− 3	− 4	− 1	17	20	25	24	36	35	8	3	0	2	− 2	− 3	2	4	3	11	10	....	....	....	6.4
	Minimum	− 36	−41	−23	−22	−19	7	0	−20	25	22	−30	−14	8	9	15	6	−20	25	−12	−23	−11	−11	−20	−20	9	− 6	−12	10	....	....	....	14.1
Lamoine	Maximum	−16	−14	− 7	− 3	20	25	30	0	3	0	2	15	22	22	22	39	31	1	3	1	3	− 1	0	7	3	2	10	11	....	....	....	8.2
	Minimum	− 37	−45	−18	−26	− 5	7	− 4	−20	−18	−23	−28	− 7	11	12	10	11	−14	−25	−14	−13	10	11	−24	−19	0	−10	−18	− 7	....	....	....	− 12.4
Langdon	Maximum	− 25	−20	−20	− 7	−14	26	19	− 4	− 1	− 4	− 4	15	19	25	21	20	− 3	2	0	3	4	− 3	− 2	6	5	6	15	....	....	....	....	[a] 4.3
	Minimum	− 37	−45	−45	−27	−21	−12	2	−21	−27	−25	−32	−30	0	5	15	11	−25	−34	−30	−25	−21	−20	−25	−31	−30	− 8	−19	−19	....	....	....	−20.6
Larimore §§	Maximum	− 18	14	14	−10	19	29	10	4	1	−10	1	20	20	27	24	38	11	2	0	5	0	0	0	9	12	10	14	9	....	....	....	7.1
	Minimum	− 31	−30	−24	−24	−12	− 6	4	17	−22	−18	−30	17	− 1	1	16	11	−20	−24	14	−22	−14	−13	−17	−18	− 9	− 8	−16	− 5	....	....	....	−13.4
Lisbon §§	Maximum	....	....	....	....	....	....	24	28	6	6	13	12	22	23	31	32	41	18	11	5	10	12	15	5	14	15	14	15	....	....	....	[e]17.6
	Minimum	−32	−20	−16	−20	−15	−10	6	−12	−16	−14	−25	−15	2	12	25	18	−10	−12	−16	−26	−18	−20	−16	−14	− 8	−10	− 8	− 6	....	....	....	−10.8
McHenry	Maximum	−23	−13	−13	− 8	− 2	23	30	8	1	0	3	18	20	27	23	37	15	2	3	2	11	11	8	8	5	3	11	3	....	....	....	7.6
	Minimum	− 37	−40	−22	25	−22	−11	8	−20	−23	−23	−26	−11	12	12	10	10	−20	−22	−20	−18	−20	−21	−20	−20	2	−10	− 7	−13	....	....	....	−14.2
McKinney	Maximum	−26	−15	−10	2	25	28	33	7	5	6	8	20	25	26	28	38	13	13	5	5	8	5	8	12	8	10	18	15	....	....	....	11.4
	Minimum	− 36	−43	−20	−22	−12	15	3	−14	− 9	15	−22	− 7	15	14	13	10	− 6	−22	−22	−22	−16	−16	−17	−15	− 2	−12	− 7	− 8	....	....	....	−10.9
Maddock	Maximum	−23	− 6	11	− 8	14	23	29	7	7	0	4	19	21	26	24	37	34	10	6	5	3	− 1	0	5	5	5	1	11	....	....	....	9.3
	Minimum	− 37	−44	−20	− 22	10	12	0	−20	−21	−21	−27	−11	12	9	10	10	−16	−25	9	−21	13	−14	−21	−20	4	−11	−13	5	....	....	....	−12.6
Marmarth	Maximum	− 26	8	31	10	34	32	34	24	27	13	10	24	20	25	31	40	27	7	8	12	9	3	....	8	9	11	11	....	....	....	....	[a]15.7
	Minimum	− 40	39	....	− 22	−16	−22	23	0	7	12	−17	7	9	3	10	25	− 6	−13	− 7	− 6	− 9	10	−23	−13	1	−11	−10	− 6	....	....	....	−[a] 5.2
Minot §§	Maximum	− 25	− 8	− 2	1	28	33	30	19	6	5	8	18	25	25	38	43	14	8	5	8	2	− 2	4	14	4	5	12	15	....	....	....	11.8
	Minimum	− 35	−43	−46	−23	−20	− 6	19	13	−14	−15	−25	12	0	14	15	14	−14	−21	19	−18	−13	−14	29	−19	18	9	−13	12	....	....	....	13.4
Mott	Maximum	− 30	18	− 5	11	20	28	34	22	12	2	0	18	25	24	28	41	20	1	22	11	4	7	4	11	8	3	17	10	....	....	....	11.7
	Minimum	− 39	−47	−35	14	0	7	12	− 4	2	−19	28	− 9	2	2	7	4	−30	18	2	5	− 9	4	−21	− 3	− 1	−10	−12	−10	....	....	....	−10.0
Napoleon §§	Maximum	−25	− 9	− 7	− 5	25	30	33	16	5	0	10	12	23	28	33	44	15	6	4	12	3	10	0	12	10	3	15	11	....	....	....	11.2
	Minimum	− 38	−43	−20	−28	−16	5	16	16	−17	−22	−30	−10	7	6	12	15	−11	−16	−10	−20	− 5	−10	−20	−20	−15	− 6	−14	0	....	....	....	−11.6
New England	Maximum	− 15	4	12	10	24	19	38	17	11	18	12	20	14	24	18	48	27	13	12	14	19	12	7	18	20	14	19	18	....	....	....	16.0
	Minimum	− 39	−40	−10	− 24	18	− 4	4	− 6	14	−18	−24	− 8	1	10	6	−10	5	9	− 2	− 5	− 9	− 8	−20	−13	− 6	− 9	10	− 2	....	....	....	10.1
New Salem	Maximum	− 29	−16	−10	10	10	28	34	21	10	3	4	17	25	26	29	46	43	12	7	3	5	2	4	12	1	4	15	19	....	....	....	11.1
	Minimum	− 40	−45	−18	−26	−15	12	16	−18	− 8	−20	−24	− 3	8	12	10	13	12	−16	− 8	−13	12	− 8	21	−15	− 8	12	−14	− 1	....	....	....	−10.2
Orange	Maximum	− 26	− 8	6	− 3	21	31	26	28	13	9	5	23	23	29	32	43	28	4	10	8	11	5	5	11	9	7	18	15	....	....	....	14.0
	Minimum	−37	47	8	−21	−13	20	19	3	− 7	−16	28	− 2	3	7	11	19	− 7	− 9	− 4	9	− 6	− 4	−19	0	5	− 4	−11	− 3	....	....	....	− 6.2
Oriska	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Park River	Maximum	− 15	15	15	1	9	19	30	0	9	− 2	0	17	17	28	24	28	22	2	1	2	2	− 4	− 2	2	3	4	11	11	....	....	....	5.8
	Minimum	29	−35	22	....	13	3	0	18	23	−16	−26	19	5	3	16	12	....	−23	−18	24	....	− 15	....	22	−13	− 4	−10	8	....	....	....	−[d]12.5
Pembina §§	Maximum	− 8	6	− 4	− 8	8	−10	−12	−10	− 8	−12	−10	12	−10	− 6	4	− 6	− 4	− 8	− 6	0	4	0	− 4	− 8	− 4	8	20	10	....	....	....	− 4.5
	Minimum	− 36	−18	18	−12	−18	22	20	−22	20	−18	26	22	28	−24	−15	12	16	14	21	−17	12	10	−13	18	−22	−12	−10	− 8	....	....	....	−18.0
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	25	−15	−10	− 8	16	25	32	7	2	3	4	17	21	25	25	39	33	4	8	4	2	− 1	− 1	7	3	5	13	15	....	....	....	8.9
	Minimum	− 36	−44	−20	−29	−19	13	7	−14	−13	−19	−27	− 7	10	10	16	13	16	−25	−20	−21	−14	−14	−20	−20	7	− 7	−10	− 6	....	....	....	−12.1
Turtle Lake	Maximum	−25	− 15	− 7	− 7	13	26	31	20	5	2	2	18	22	23	27	40	30	0	5	5	4	0	0	10	10	0	12	12	....	....	....	9.4
	Minimum	− 35	−41	− 17	−20	−14	10	16	−16	−10	−16	−25	− 4	13	17	15	18	−12	− 6	− 6	−15	18	− 8	−17	−17	− 4	− 8	−16	− 6	....	....	....	− 8.4
Wahpeton §§	Maximum	19	10	10	− 5	14	30	31	5	5	− 5	− 8	21	20	31	30	45	13	5	7	15	14	31	10	15	21	12	17	18	....	....	....	12.6
	Minimum	− 32	−37	−25	−21	−20	−14	−13	−20	−24	−22	−25	−14	2	7	20	7	−11	− 5	0	−19	3	− 6	10	−13	−12	− 4	−13	− 7	....	....	....	−11.7
Westhope	Maximum	−23	−18	−11	− 6	16	30	32	3	0	5	10	19	22	28	30	35	20	5	6	2	− 5	0	1	10	0	− 3	18	10	....	....	....	8.4
	Minimum	− 38	−43	25	−26	−15	1	2	−19	−12	−21	−25	−11	−25	−25	14	10	−20	−16	−21	−25	−17	−21	−20	−15	−10	−18	10	− 8	....	....	....	−16.4
Williston	Maximum	26	− 2	−10	− 9	24	34	34	4	9	4	9	15	22	25	31	42	0	2	6	9	0	− 3	0	8	3	0	12	10	....	....	....	9.0
	Minimum	− 37	−40	−20	−23	13	24	4	− 9	−10	14	22	1	15	16	13	0	−14	−21	12	5	−15	13	−17	−11	− 4	−15	− 7	− 5	....	....	....	− 9.4
Willow City	Maximum	−24	−20	−12	− 6	13	24	30	− 4	1	3	2	16	20	25	24	37	11	3	4	4	− 5	1	− 2	1	5	4	16	12	....	....	....	6.5
	Minimum	−38	32	20	24	16	13	− 4	−21	−16	−23	29	−10	13	6	10	11	−17	−28	−20	20	−15	−16	−20	−22	−11	− 6	−12	− 8	....	....	....	−13.4
Zap	Maximum	28	9	0	5	22	29	33	13	6	0	6	15	22	25	28	43	25	4	9	6	9	− 1	3	13	7	3	14	13	....	....	....	10.9
	Minimum	40	45	−17	−23	−17	13	13	− 18	−15	−26	27	3	5	10	8	20	11	21	−10	−10	−12	− 7	−23	−18	− 2	−13	−16	− 7	....	....	....	−11.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MARCH, 1917

BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 27, 1917.

Departure of the Mean Temperature from the Normal, March, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., MARCH, 1917. No. 3.

GENERAL SUMMARY.

Seasonable weather as regards temperature and sunshine prevailed throughout the State. The precipitation, which was mostly confined to the middle decade, was deficient. The accumulated snows disappeared rapidly, and, owing to the dry condition in which the ground froze last fall, nearly all was absorbed. Not much field work was done in the west and central parts of the State, although a few fields of wheat were sown in the eastern portion. Livestock generally came through the winter in poor condition, necessitating the feeding of much roughage, which is becoming scarce.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.03 inches. The highest was 30.91 inches on the 3d at Bismarck and Williston; the lowest was 29.24 inches at Devils Lake on the 30th.

TEMPERATURE.

The mean temperature for the State was 22.2°, or 0.4° below the normal, and 1.9° higher than the mean for March, 1916. The highest mean reported was 26.2° at Wahpeton, Richland County; the lowest was 16.0° at Howard, Divide County. The highest temperature reported was 67° at Marstonmoor, Stutsman County, on the 30th; the lowest was −39° at Eckman, Bottineau County, on the 4th. The greatest monthly range of temperature was 105° at Marstonmoor, Stutsman County; the least 50° at Bowman, Bowman County. The greatest daily range was was 59° at Jamestown, Stutsman County, on the 5th. Usually the highest temperature occurred on the 29th or 30th, and the lowest on the 4th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 85 per cent, the average at 7 a. m. being 89 per cent, and at 7 p. m. 80 per cent.

PRECIPITATION.

The average precipitation for the State was 0.39 inch, or 0.44 inch below the normal, and 1.09 inches less than the average for March, 1916. The greatest monthly amount reported was 1.50 inches at Ashley, McIntosh County; there was none at Parshall, Mountrail County, and at Washburn, McLean County. The greatest amount recorded in any twenty-four consecutive hours was 1.10 inches at Colgate, Steele County, on the 13th. Practically all of the precipitation occurred in the form of snow, the average snowfall for the State being 3.9 inches. The average number of days with 0.01 inch or more of precipitation was 3. There were scattered snow flurries throughout the month, but there was but one stormy period, from the 10th to the 16th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.4 miles. The greatest wind movement was 8,719 miles at Devils Lake, an average of 11.7 miles per hour; the least was 6,568 miles at Williston, an average of 8.8 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 51 miles per hour from the northwest at Bismarck on the 24th.

SUNSHINE AND CLOUDINESS.

The sunshine was nearly normal; the average number of clear days was 13, partly cloudy days 10, and cloudy days 8.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.9	66	−35	0.83	−0.04	4	12	8	11	se.
1893...	13.9	−8.4	68	−35	0.99	+0.12	5	13	7	11	nw.
1894...	24.8	+2.5	69	−22	1.45	+0.58	5	12	9	10	nw.
1895...	23.2	+0.9	75	−35	0.16	−0.71	2	16	10	5	nw.
1896...	15.7	−6.6	70	−35	1.18	+0.31	8	12	10	9	nw.
1897...	11.9	−10.4	58	−48	1.27	+0.40	7	15	7	9	nw.
1898...	21.3	−1.0	79	−24	0.79	−0.08	5	13	8	10	nw.
1899...	7.5	−14.8	72	−30	1.00	+0.13	5	12	10	9	nw.
1900...	20.3	−2.0	77	−24	1.01	+0.14	5	14	7	10	nw.
1901...	25.3	+3.0	85	−32	0.86	−0.01	5	15	8	8	nw.
1902...	27.4	+5.1	65	−25	2.73	+1.86	8	10	6	15	nw.
1903...	22.1	−0.2	80	−24	0.55	−0.32	3	12	6	13	nw.
1904...	18.2	−4.1	64	−26	1.33	+0.46	5	11	6	14	nw.
1905...	32.5	+10.3	81	−25	0.87	0.00	4	11	8	12	nw.
1906...	18.5	−3.8	67	−34	0.38	−0.49	3	15	6	10	nw.
1907...	23.1	+0.8	83	−20	0.70	−0.17	4	14	9	8	nw.
1908...	21.1	−1.2	68	−31	1.16	+0.29	8	10	9	12	nw.
1909...	24.0	+1.7	61	−24	0.32	−0.55	4	10	9	12	nw.
1910...	41.3	+19.0	90	− 7	0.97	+0.10	3	18	8	5	nw.
1911...	30.6	+8.3	78	−18	0.24	−0.63	2	16	10	5	nw.
1912...	15.4	−6.9	65	−28	0.33	−0.54	3	17	8	6	nw.
1913...	17.2	−5.1	70	−31	0.81	−0.06	6	12	9	10	nw.
1914...	25.5	+3.2	76	−20	0.90	+0.03	5	10	9	12	nw.
1915...	23.3	+1.0	63	−23	0.22	−0.65	2	16	6	9	nw.
1916...	20.3	−2.0	69	−45	1.48	+0.61	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.

Climatological Data for March, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Alexander	McKenzie	.....	2	20.4[b]	.....	43[b]	20†	−32[b]	3	54[b]	0.32	.....	0.12	.....	4	.....	.....	.....	w.	M. B. Johnson.
Amenia	Cass	954	21	23.6	+0.1	63	30	−31	4	44	0.15	−0.49	0.15	1.5	1	20	2	9	w.	E. T. Carley.
Ashley	McIntosh	2,001	20	22.3	+0.3	60	30	−31	4	41	1.50	+0.25	0.60	15.0	5	18	5	8	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	20.2	−7.0	49	29	−22	3	41	0.33	−0.45	0.15	.....	3	21	7	3	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	25.5	+0.5	54	28	−27	3	53	0.10	−0.86	0.10	1.1	1	10	13	8	nw.	C. L. Hall.
Bierman	Slope	.....	1	21.4[a]	.....	48[a]	30	−19[a]	3	37[a]	0.67	.....	0.30	6.5	5	.....	.....	.....	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	24.3	+2.2	63	30	−24	4	40	0.60	−0.44	0.42	5.6	5	7	16	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	19.8	+2.1	50	30	−30	3	46	0.10	−0.86	0.04	.....	4	10	11	10	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	19.6	.....	45	29	−28	3	36	0.38	.....	0.26	.....	2	23	1	7	.....	G. H. Phelps.
Bowman	Bowman	.....	3	22.4[d]	.....	42[g]	21	− 8	4†	34[g]	0.70	.....	0.60	7.0	2	21	0	10	.....	L. S. Diehl.
Buford	Williams	1,944	38	20.0	−3.6	47	29	−33[b]	3	46[b]	0.07	−0.48	0.04	.....	2	17	10	4	nw.	P. Elmore.
Cando	Towner	1,488	16	20.6[c]	+0.1	53[c]	30	−21[c]	3	46[c]	0.23	−0.48	0.10	.....	4	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	5	21.8	.....	58	30	−23	3	32	0.80	.....	0.35	8.0	4	13	11	7	nw.	J. W. Evens.
Colgate	Steele	1,177	3	25.0	.....	62	30†	−30	4	53	1.36	.....	1.10	.....	3	17	5	9	s.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	T.	−0.71	T.	T.	0	17	11	3	w.	S. Friswold.
Crosby	Divide	1,954	10	24.4	+2.6	48	20	−26	3	54	0.15	−0.57	0.03	1.5	6	21	2	8	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	21.8	+3.3	59	30	−21	4	31	0.30	−0.71	0.18	2.7	6	8	13	10	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	21.9	−2.8	50	30	−20	4	47	0.48	−0.42	0.37	7.5	2	11	5	15	w.	J. C. Thysell.
Donnybrook	Ward	1,760	18	23.0	−0.3	48	29	−24	3	34	0.23	−0.66	0.10	4.0	3	17	9	5	nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	21.7	+2.9	51	30	−27	4	42	T.	−0.98	T.	T.	0	12	8	11	nw.	J. G. Lamont.
Eckman	Bottineau	.....	12	21.0[a]	−1.1	51[a]	30	−39[a]	4	55[a]	T.	−0.49	T.	T.	0	14	7	10	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	24.0	−2.5	65	30	−23	4	35	0.30	−0.62	0.30	3.0	1	1	19	11	nw.	O. A. Thompson.
Energy ††	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.02	.....	7	10	13	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.12	3.0	2	20	5	6	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	21.6	.....	60	30	−26	4	47	0.05	.....	0.05	0.5	1	18	8	5	w.	G. T. Seymour.
Forman	Sargent	1,249	25	24.8	−0.8	57	30	−20	4	40	0.30	−0.62	0.20	3.0	2	14	9	8	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	24.0	−1.6	63	30	−25	4	35	1.45	+0.14	0.85	14.5	2	16	5	10	nw.	F. O. Alin.
Garrison	McLean	1,901	22	23.1	+1.3	50	30	−26	3	39	0.24	−0.79	0.05	2.5	6	9	12	10	nw.	G. L. Robinson.
Grafton	Walsh	827	25	20.0[a]	+0.8	53[a]	30	−32[a]	4†	56[b]	0.14	−0.60	0.14	0.7	1	.....	.....	.....	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	21.6	−1.2	54	30	−33	4	40	0.34	−0.39	0.20	3.6	3	24	6	1	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	24.2	.....	63	30	−30	4	39	1.00	.....	0.30	10.0	5	16	4	11	nw.	G. H. Leick.
Granville	McHenry	1,504	10	24.0	+0.3	52	29	−23	3	33	0.04	−0.49	0.03	0.2	2	9	14	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	18.0	−2.7	42	30	−30	3	39	0.30	−0.32	0.20	3.0	2	16	3	12	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	19.6	.....	48	30	−27	4	36	0.50	.....	0.20	5.0	3	18	9	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	23.6	−4.5	53	31	−15	3	37	0.40	−0.25	0.40	.....	1	9	18	4	nw.	A. J. Ogaard.
Hillsboro	Traill	901	11	23.6	−1.1	56	31	−31	4	36	0.05	−0.86	0.05	0.5	1	8	20	3	nw.	F. E. Mayall.
Howard	Williams	2,275	10	16.0	−5.3	55	30	−29	3	41	1.17	−0.01	0.22	11.7	8	12	9	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	22.0	−0.8	66	30	−26	4	59	0.30	−0.71	0.20	3.0	3	8	7	16	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	21.8	+2.5	55	30	−25	3	37	0.20	−0.39	0.10	3.5	3	10	19	2	w.	C. R. Pettes.
Lamoine	Kidder	1,936	9	19.3[a]	−3.7	56[a]	30	−29[a]	4	37[b]	0.10	−0.75	0.10	1.0	1	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	18.2	−0.9	44	29	31	4	48	0.30	−0.37	0.20	3.0	2	18	6	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	22.6	+1.4	58	30	−26	4	38	0.10	−0.73	0.05	1.0	2	16	6	9	n.	G. G. Graham.
Lisbon	Ransom	1,091	13	25.4	−1.2	63	30	−27	4	51	0.42	−0.16	0.40	4.2	2	18	5	8	nw.	W. S. Adams.
McHenry	Foster	1,509	7	21.7	.....	62	30	−28	4	39	0.30	.....	0.21	3.0	2	26	5	0	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	24.0	+5.2	50	29	−25	3	46	T.	−0.84	T.	T.	0	1	23	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	24.8	.....	61	28	−23	4	39	0.75	.....	0.20	7.5	7	18	0	13	nw.	R. D. Markland.
Maddock	Benson	.....	2	21.7	.....	56	30	−28	4	37	0.18	.....	0.16	1.8	2	3	15	13	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	22.9	.....	51[a]	29	−28	4	50[a]	0.35	.....	0.29	.....	2	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	22.6	−0.6	57	30	−27	4	37	0.24	−0.62	0.10	2.8	4	9	15	7	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	0.27	.....	0.18	.....	2	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	18.6	.....	42	29	−26	3	46	0.32	.....	0.23	4.7	2	10	9	12	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	20.6[b]	.....	67[b]	30	−38[a]	4	47[b]	0.20	.....	0.10	2.0	4	8	16	7	nw.	H. H. McCumber.
Mayville	Traill	975	21	24.4	+1.2	60	31	−26	4	34	0.13	−0.55	0.10	.....	3	17	7	7	n.	W. C. Gould.
Melville	Foster	1,590	19	22.9[a]	+0.1	60[a]	30	−22[a]	4	32[a]	T.	−0.62	T.	T.	0	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.30	5.7	4	14	4	13	n.	Hj. Edman.
Minot	Ward	1,557	21	22.2	+1.0	53	30	−26	4	47	T.	−0.75	T.	T.	0	8	11	12	nw.	W. I. Faris.
Minto	Walsh	820	24	21.5	+0.4	54	30	−31	4	38	0.13	−0.77	0.07	.....	3	21	6	4	n.	C. M. Evans.
Mott	Hettinger	2,424	10	20.2	−7.1	43	31	−21	3	30	1.36	+0.41	0.48	13.2	6	9	9	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	19.7	1.7	65	30	−28	4	47	0.40	−0.51	0.20	6.0	3	15	7	9	w.	C. J. Hoof.
New England	Hettinger	2,400	23	24.6	+0.1	55	30	−24	4	44	0.60	−0.22	0.30	6.0	2	7	20	4	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	21.8	−2.9	56	30	−25	4	40	0.72	−0.25	0.45	7.2	4	12	9	10	nw.	J. Christiansen.
Orange ††	Adams	2,586	8	22.2	.....	58	30	−23	4	37	0.50	.....	0.20	5.0	3	8	15	8	nw.	T. F. Young.
Oriska	Barnes	1,270	12	23.2	−2.9	64	30	−26	5	54	0.20	−0.37	0.20	2.0	1	8	14	9	n.	J. J. Taylor.
Park River	Walsh	998	13	21.6[b]	−0.5	59[b]	30	−21[c]	4	39[c]	0.90	+0.35	0.64	.....	4	17	6	8	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	13	5	3	w.	J. A. Johnson.
Pembina	Pembina	789	43	20.0	+3.9	47	27†	−30	3	40	0.57	−0.38	0.10	.....	11	.....	.....	.....	.....	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	0.07	.....	0.07	0.9	1	16	0	15	nw.	C. Frank.
Steele	Kidder	1,857	20	26.0[a]	+5.3	56[a]	28†	−22[a]	2	32[a]	1.36	+0.52	0.72	10.0	4	11	16	4	w.	H. S. Wood.
Taylor	Stark	2,493	1	21.8	.....	49	30	19	1†	48	0.43	.....	0.29	.....	5	16	3	12	nw.	H. Leutz.
Towner	McHenry	1,482	15	23.2	+4.2	53	21†	−28	4	39	T.	−1.07	T.	T.	0	8	13	10	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Jones.
Wahpeton	Richland	962	23	26.2	−0.6	55	30	−12	3	38	0.30	−0.66	0.12	.....	4	14	5	12	nw.	F. E. Smith.
Walhalla	Pembina	966	10	22.2	+2.3	53	30	−23	3	32	0.25	−0.47	0.15	2.5	2	14	6	11	n.	Ivan Lee.
Washburn	McLean	1,734	18	25.0	+0.7	53	30	−22	4	39	0.00	−0.69	0.00	0	0	5	18	8	nw.	J. T. McCulloch.
Westhope	Bottineau	1,508	11	20.9	0.0	46	30	−30	3	42	T.	−0.55	T.	T.	0	15	11	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	20.8	−0.8	46	29	−26	3	42	0.47	−0.21	0.26	3.9	10	10	15	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	22.1	+4.0	47	30	−29	3†	41	0.20	0.50	0.10	1.0	2	8	22	1	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	22.6	.....	48	27	−26	3†	43	0.21	.....	0.11	6.7	6	8	11	12	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	25.7	+4.3	55	30	−27	4	39	0.40	−0.74	0.20	4.0	5	16	7	8	nw.	U. S. Weather Bureau.
Averages		.....	.....	22.2	−0.4	67	30	−39	4	59	0.39	−0.44	1.10	3.9	3	13	10	8	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for March, 1917.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexander	Missouri										.12					.10					.08										.02		0.32
Amenia ‖ ‖	Red													.15																		0.15
Ashley	Missouri										.20	.60	.20				.40									.10						1.50
Beach	Lit. Missouri					T.					.15			.15								T.				.03				T.		0.33
Berthold Agency	Missouri		T.	T.		T.				T.	T.	.10	T.		T.	T.	T.					T.			T.							0.10
Bierman	Lit. Missouri	.04									.30	.04				.20	.09															0.67
Bismarck ***	Missouri		T.				T.	T.	T.		.25	.17	.07	.03	T.	T.	.08	T.							T.	T.	T.					0.60
Bottineau ‖ ‖	Mouse		T.	.01										.02	T.			T.					.04			.03						0.10
Bowbells ‖ ‖	Monse																				.12		.26									0.38
Bowman	Grand										.60					.10																0.70
Buford	Missouri		T.									.04	.03		T.															T.		0.07
Cando	Sheyenne												.06	.10	.02			.05														0.23
Carson	Heart										.15	.35					.20	.10														0.80
Colgate	Sheyenne					T.	.25		T.		T.		1.10	T.		T.									.01		T.					1.36
Cooperstown	Sheyenne											T.	T.					T.									T.					T.
Crosby	Mouse						.02				.03		.02		.03		.02	.03												T.	T.	0.15
Devils Lake ***	Sheyenne		.01			.08	T.	T.		.01	T.		.11	.08			T.	.01		T.							T.					0.30
Dickinson ‖‖	Heart	T.		T.				T.			T.	.37			T.	T.	.11															0.48
Donnybrook	Mouse							.10		T.	T.	T.	.75		T.	.50	T.								T.							1.35
Dunseith	Mouse									T.								T.	T.			T.				T.						T.
Eckman	Mouse							T.			T.														T.							T.
Edgeley	James											.30																				0.30
Energy	Missouri							.01		.01	T.	.01	.02	.02	.02	T.	.01															0.10
Epping	Missouri											T.	.12	T.	T.	T.									T.						.10	0.22
Fessenden ‖ ‖	James				T.	T.	T.		T.				T.	.05		T.		T.	T.							T.						0.05
Forman	Sheyenne											.10					.20															0.30
Fullerton	James		T.	T.				T.	T.	T.			.60	T.			.85									T.						1.45
Garrison	Missouri							.02		.02		.05	.05	.05	.05	T.	T.															0.24
Grafton ‖ ‖	Red						.14																									0.14
Grand Forks	Red		T.		T.	.20				T.				.10				T.								.04						0.34
Grand Rapids	James										.10	.20		.30	.20		.20															1.00
Granville	Mouse						T.					.01	T.	T.			T.	T.							.03								0.04
Hannah	Pembina		T.		T.							T.	.10					T.							T.		.20		T.			0.30
Hansboro	Red		.20											.20								.10										0.50
Hettinger	Grand			T.							.40						T.															0.40
Hillsboro	Red					T.								.05											T.		T.					0.05
Howard	Missouri		T.			T.	.19	T.	T.	T.	.19	.22	.20	T.	.07	.05	.05	T.							T.						.20	1.17
Jamestown ‖ ‖	James													.20		.05		.05														0.30
Lakota	Sheyenne		.10											.08	.02				T.	T.					T.		T.					0.20
Lamoine	Missouri		T.											.10											T.		T.					0.10
Langdon ‖	Pembina						T.						.20	T.		T.										T.	.10					0.30
Larimore ‖	Red						.05							.05																		0.10
Lisbon ‖	Sheyenne											.40		.02	T.		T.															0.42
McHenry	James											.21						.09							T.							0.30
McKinney	Mouse		T.					T.		T.	T.	T.	T.	T.	T.	T.	T.	T.	T.			T.			T.						T.	T.
McLeod	Sheyenne		.05	T.		.10						.20		.20	T.		.05	.10									.05					0.75
Maddock	Sheyenne					T.	.16							.02																		0.18
Mandan ‖ ‖	Missouri										T.	.29	T.	.06				T.							T.							0.35
Manfred	Sheyenne		.02		T.			T.					.10	.05		T.	T.	.07							T.		T.					0.24
Manning	Knife												.18				.09															0.27
Marmarth	Lit. Missouri		T.			T.	T.		T.			.23	T.		T.		.09	T.				T.			T.	T.	T.			T.	T.	0.32
Marstonmoor	James		T.			T.		T.	T.		T.	T.	.02	.10	.03	T.	.05	T.				T.					T.		T.			0.20
Mayville	Red													.10				.02										.01				0.13
Melville	James		T.										T.				T.	T.			T.											T.
Milnor	Red		T.									.30		.20			.30															0.80
Minot ‖	Mouse		T.	T.		T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.															T.
Minto	Red					.07	.03	T.		T.			T.	.03																			0.13
Mott	Cannon Ball									T.		.48	.23	.02		.34	.27									.02					T.	1.36
Napoleon ‖	Missouri											.20		.10			.10															0.40
New England	Cannon Ball										.30	.30																					0.60
New Salem	Heart			T.						T.	.10	.45	.05			.12									T.	T.							0.72
Orange	Cannon Ball										.20		.10				.20																0.50
Oriska	Sheyenne				T.	T.				T.			T.		T.		.20	T.									T.						0.20
Park River	Red		T.		.15	.64	T.			.08				.03																			0.90
Parshall	Missouri																																0.00
Pembina ‖	Red			.05			.05				.04										.08	.06	.10	.04		.02	.02	.04	.04	.02	.01	0.57
Power	Sheyenne																																
Powers Lake	Missouri		T.					T.					.07		T.																		0.07
Steele	Missouri	T.					T.				T.	.26		.72		.13	.25	T.															1.36
Taylor	Heart							.01			.10	.29	T.	T.	T.	T.	.02	.01								T.							0.43
Towner	Monse													T.				T.									T.						T.
Turtle Lake	Missouri																																
Wahpeton ‖	Red	T.		T.							T.	.11	T.	.12	T.		.02	.05	T.								T.						0.30
Walhalla	Pembina		.10										.15												T.								0.25
Washburn	Missouri																																0.00
Westhope	Monse																					T.				T.				T.			T.
Williston ***	Missouri		T.			.06	.08	T.		.01	.01	.22	.04	T.	T.	.01	.01								.01						.02		0.47
Willow City	Monse		T.										T.	T.			T.						T.		T.		.10		.10				0.20
Zap	Knife									.01	.01	.11		.01	.01	T.	.06																0.21
Moorhead, Minn ***	Red		.03			.02					.04			.20			.11	T.							T.		T.						0.40

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Alexander	Maximum	19	13	4	27	42	34	32	30	23	30	29	26	32	35	30	25	25	41	34	43	40	40	37	37	38	40	42	41	43	.....	.....	[b]32.0
	Minimum	− 5	− 2	−32	−27	21	17	19	− 1	8	12	12	13	− 3	16	5	3	− 2	0	19	18	14	15	18	27	13	14	15	28	16	.....	.....	[b] 8.7
Amenia §§	Maximum	29	23	2	9	27	31	31	34	30	30	28	33	29	32	30	26	31	18	38	41	42	42	42	48	48	41	42	42	50	63	52	34.3
	Minimum	−15	−11	−15	−31	−16	7	22	11	12	21	17	13	16	16	20	22	14	− 4	− 2	11	24	26	27	28	26	27	20	27	28	27	29	12.8
Ashley	Maximum	22	16	6	10	35	33	30	28	30	28	29	28	30	30	24	23	21	16	36	38	39	40	39	42	34	42	43	46	48	60	48	32.1
	Minimum	− 9	− 5	−19	−31	2	18	19	14	18	21	19	22	17	9	− 4	20	− 5	− 8	11	17	18	22	17	28	23	15	32	28	21	32	25	12.5
Beach	Maximum	18	15	16	30	40	32	33	33	33	23	25	16	30	26	25	19	25	39	37	35	35	36	35	37	30	39	30	35	49	41	38	30.8
	Minimum	−10	−12	−22	−10	16	23	17	18	17	17	16	− 9	− 1	0	−15	− 5	7	3	20	23	21	23	22	20	14	20	14	6	15	26	20	9.5
Berthold Agency	Maximum	20	15	8	27	42	37	38	35	38	37	30	30	39	34	33	29	26	43	39	42	41	42	43	53	44	41	49	54	53	52	51	37.5
	Minimum	−18	− 6	−27	−26	17	22	21	18	19	20	17	10	15	20	10	20	5	1	17	17	16	21	21	32	18	21	17	34	15	31	21	13.5
Bismarck	Maximum	23	15	− 1	16	43	34	31	27	32	28	29	30	28	30	25	26	23	27	38	41	37	39	42	45	42	37	48	45	30	63	47	33.5
	Minimum	−10	− 5	−20	−24	16	21	26	21	20	21	19	21	21	16	7	14	6	2	12	20	23	26	21	27	25	24	19	29	19	29	23	15.1
Bottineau §§	Maximum	15	13	− 4	14	32	32	28	24	30	28	28	29	32	30	28	29	25	29	34	40	37	31	37	37	38	34	44	40	45	50	38	30.5
	Minimum	−15	− 7	−30	−29	−14	13	16	4	6	18	15	9	15	15	14	14	3	− 1	10	14	19	16	19	21	20	22	14	21	18	24	21	9.2
Bowbells §§	Maximum	15	10	2	18	32	30	32	28	30	27	24	28	30	28	20	23	21	34	35	37	40	38	37	35	35	36	35	42	45	40	35	29.8
	Minimum	−18	−12	−28	−18	0	12	19	12	10	12	12	11	10	12	8	− 1	1	1	4	21	20	18	17	20	20	18	21	20	18	27	21	9.3
Carson	Maximum	12	15	5	13	40	32	30	32	30	29	25	30	32	31	20	23	20	22	35	37	36	36	38	37	37	35	44	45	50	58	40	31.3
	Minimum	−10	− 5	−23	−22	8	20	25	15	15	19	15	10	12	15	9	14	1	0	13	17	15	24	18	29	20	25	16	18	20	33	18	12.4
Colgate	Maximum	30	30	29	9	30	36	32	42	32	42	42	34	38	32	32	30	38	36	34	42	39	45	43	45	47	42	50	49	52	62	62	38.7
	Minimum	−12	−12	− 10	−30	3	11	10	10	15	16	22	15	18	16	15	19	13	− 3	− 9	−11	14	15	25	25	25	26	18	19	25	31	28	11.2
Crosby	Maximum	25	15	28	15	34	32	36	34	32	25	30	35	33	34	36	28	24	40	42	48	45	34	42	42	45	40	42	40	45	42	34	34.7
	Minimum	− 9	−10	−26	−25	8	17	20	18	20	5	12	12	15	12	14	15	7	9	20	24	28	26	23	32	24	21	23	30	21	34	20	14.2
Devils Lake	Maximum	18	15	6	10	32	30	26	27	31	25	26	28	27	28	27	26	24	21	33	38	34	34	40	38	41	34	43	39	46	59	42	30.2
	Minimum	− 8	− 6	18	21	9	20	15	5	20	17	14	16	15	14	5	13	2	− 7	10	19	25	27	19	28	24	25	19	30	25	32	26	13.4
Dickinson	Maximum	19	14	5	27	40	32	29	33	33	22	22	24	28	28	19	19	19	35	34	35	37	35	40	38	37	35	44	37	48	50	40	30.9
	Minimum	− 9	− 1	−19	−20	18	21	20	8	14	22	15	−11	15	19	12	18	0	− 2	19	17	19	24	20	29	21	20	17	27	17	30	21	12.9
Donnybrook	Maximum	17	12	7	16	34	33	31	28	29	29	25	25	30	29	26	24	23	33	35	39	38	35	38	37	39	36	43	40	48	45	42	31.2
	Minimum	− 4	0	−24	−18	15	24	21	16	11	20	14	13	15	14	15	17	3	9	18	25	21	20	22	30	21	21	19	32	16	31	22	14.8
Dunseith	Maximum	17	22	16	10	31	37	28	26	24	27	25	26	31	29	28	38	30	35	38	37	38	35	40	41	38	37	40	38	44	51	40	32.2
	Minimum	−24	− 2	−26	−27	− 6	18	14	6	18	18	13	13	21	14	9	12	6	12	15	16	17	17	19	22	21	24	10	25	20	30	21	11.2
Edgeley	Maximum	26	23	13	11	35	33	31	29	29	28	30	28	28	29	26	25	24	19	35	38	40	38	40	46	44	37	44	45	43	65	48	33.2
	Minimum	− 7	− 3	−16	−23	4	22	20	15	20	22	20	21	21	10	0	21	8	− 8	6	20	20	24	19	29	27	25	10	25	24	30	27	14.9
Fessenden §§	Maximum	21	16	2	18	34	30	26	27	32	26	29	28	28	30	28	27	25	23	36	38	39	37	41	44	43	35	43	48	60	45	32.3
	Minimum	− 9	− 7	−23	−26	−13	18	17	7	11	20	15	18	16	10	− 1	9	5	− 6	5	19	18	26	20	27	22	24	15	26	23	29	21	10.8
Forman	Maximum	28	25	15	13	33	31	30	29	34	30	32	30	30	28	29	26	23	30	36	39	37	38	43	44	43	42	44	49	57	53	33.9
	Minimum	− 8	− 5	−12	−20	5	15	23	13	24	23	21	23	23	15	8	25	13	− 8	−10	17	23	27	26	30	28	27	22	32	28	31	31	15.8
Fullerton	Maximum	15	24	10	10	32	32	30	32	31	29	29	29	27	28	26	26	25	17	39	39	38	38	39	45	43	41	44	45	47	63	48	32.9
	Minimum	− 5	− 8	−14	− 25	3	19	21	15	14	23	21	21	22	16	0	22	9	− 3	9	20	23	25	20	30	25	22	25	32	26	33	28	15.1
Garrison	Maximum	20	15	5	15	43	35	32	28	32	30	28	29	30	34	25	25	24	31	34	42	40	35	39	40	40	37	46	42	48	50	41	32.7
	Minimum	− 11	− 5	−26	−24	12	18	22	20	18	20	17	17	18	16	3	16	3	0	18	19	19	24	20	30	20	22	17	29	18	30	20	13.5
Grafton §§	Maximum	19	17	6	10	24	29	27	31	33	31	27	27	30	27	....	31	26	18	29	37	35	38	38	40	42	36	39	39	46	53	46	[a]31.0
	Minimum	− 12	− 4	−22	−32	− 7	17	7	3	16	10	12	6	11	13	....	12	−11	− 4	12	20	14	27	24	25	26	17	26	21	31	28	[a] 8.9
Grand Forks	Maximum	26	15	3	7	25	30	24	26	33	30	28	30	28	26	30	29	25	18	26	37	36	38	40	40	44	36	39	43	46	54	48	31.0
	Minimum	− 12	−10	−28	− 33	7	17	15	6	8	18	8	1	18	12	16	18	4	− 8	6	22	22	24	30	25	25	21	34	29	34	30	12.3
Granville	Maximum	20	15	5	18	35	32	30	28	34	30	30	30	28	30	29	28	24	34	35	42	40	32	40	40	42	40	40	42	52	42	41	32.5
	Minimum	− 4	4	−23	− 15	15	20	20	12	10	20	28	10	12	15	8	15	4	12	20	27	23	25	23	30	24	25	24	28	20	22	16	15.5
Hannah	Maximum	16	14	0	12	29	33	28	32	35	25	26	28	29	28	26	20	21	25	35	36	35	34	37	36	37	32	36	34	40	42	39	29.0
	Minimum	−13	− 5	−30	− 25	10	8	7	− 5	10	5	4	7	10	9	10	7	4	−14	10	11	20	21	18	21	19	18	10	15	18	20	18	7.0
Hansboro	Maximum	20	16	0	9	33	33	25	31	31	30	25	28	30	28	30	28	25	22	34	36	36	36	38	38	36	36	40	36	43	48	38	30.3
	Minimum	− 5	10	−22	−27	5	5	14	5	5	12	10	4	− 2	10	10	10	8	−11	19	15	10	18	28	20	20	28	14	22	32	22	9.0
Hettinger	Maximum	25	21	3	32	40	38	34	33	31	29	25	29	31	28	31	21	19	31	33	37	38	35	38	39	37	35	46	43	45	48	53	33.2
	Miuimum	− 9	−10	− 15	− 2	3	21	17	20	19	19	0	13	16	18	16	12	0	16	12	16	12	16	14	31	21	18	14	32	28	35	31	14.0
Howard	Maximum	12	8	− 6	20	32	30	26	23	22	25	19	17	30	30	21	17	22	32	32	32	32	30	33	35	30	32	37	38	37	55	30	26.9
	Minimum	− 6	−12	−29	− 21	14	19	19	− 3	6	10	6	1	0	10	0	1	− 4	− 3	11	15	7	6	15	27	7	8	13	5	7	25	5	5.1
Jamestown §§	Maximum	24	17	11	12	35	32	27	28	30	29	28	27	29	28	28	26	26	19	37	41	43	41	43	47	45	39	46	47	52	66	51	34.0
	Minimum	− 9	− 8	−19	−26	−24	9	18	13	16	19	18	18	14	15	3	4	12	− 4	− 5	16	21	22	19	19	20	25	14	16	20	31	25	10.1
Lakota	Maximum	18	15	12	15	28	25	24	31	26	25	25	26	26	26	25	25	20	20	31	35	35	35	38	38	39	34	46	38	45	55	45	29.7
	Minimum	−11	− 8	−25	− 5	15	20	1	12	20	15	18	20	18	19	18	16	15	−12	9	10	25	29	19	19	24	24	12	21	25	32	32	13.8
Lamoine	Maximum	18	13	3	8	34	31	28	27	31	26	28	27	27	28	23	23	22	20	33	31	34	36	38	41	39	36	41	41	46	56	....	[a]29.6
	Minimum	−12	− 9	−27	−29	3	17	16	10	15	18	14	18	16	16	7	3	14	1	− 6	9	16	12	24	12	26	21	21	11	29	14	....	12 [a] 9.0
Langdon	Maximum	18	15	6	12	28	28	26	29	32	26	31	30	31	27	30	28	24	19	32	37	36	34	39	37	39	33	37	35	44	39	39	29.7
	Minimum	−15	− 6	−28	− 31	−20	10	16	0	0	19	10	18	16	19	10	15	7	−15	0	9	14	20	20	22	20	22	10	0	5	21	24	6.8
Larimore §§	Maximum	20	20	6	17	26	27	28	28	35	26	22	29	28	27	26	19	26	30	33	38	40	38	42	43	48	37	41	43	41	58	48	31.9
	Minimum	− 9	− 3	−20	− 26	− 5	17	18	7	12	18	13	12	22	15	19	15	13	− 8	3	21	25	25	25	18	27	27	18	31	25	30	26	13.3
Lisbon §§	Maximum	14	11	10	16	31	36	32	31	33	30	25	30	29	31	34	32	33	22	38	43	40	42	44	40	45	41	42	49	52	63	52	34.5
	Minimum	−10	− 8	−12	− 27	−20	15	17	14	20	25	20	12	19	14	19	24	19	22	13	24	27	26	28	26	28	29	22	31	27	30	29	16.2
McHenry	Maximum	20	14	3	11	31	30	28	25	29	26	27	30	29	27	27	25	26	20	33	38	39	35	42	43	41	40	43	42	48	62	47	31.6
	Minimum	−13	− 8	−20	− 28	5	20	15	12	16	11	14	18	17	15	3	16	10	−13	8	19	31	24	19	21	23	20	15	20	25	27	25	11.8
McKinney	Maximum	22	15	5	24	35	34	33	32	32	30	26	30	31	32	28	30	24	37	38	44	41	36	41	40	41	42	45	41	50	46	38	33.7
	Minimum	− 4	− 6	−25	− 22	10	23	20	16	14	20	15	22	20	20	12	13	2	0	0	24	24	19	20	30	24	30	20	31	21	29	25	14.4
Maddock	Maximum	18	14	5	9	34	33	26	28	33	28	28	29	28	30	29	26	25	24	33	39	38	36	38	40	40	39	42	40	46	56	43	31.5
	Minimum	−10	− 5	−22	− 28	6	15	16	2	19	20	15	15	14	7	− 1	14	3	−11	11	20	21	27	21	29	23	24	17	28	23	32	24	11.9
Marmarth	Maximum	15	15	6	24	35	31	29	31	29	25	17	22	31	20	19	14	19	33	31	31	39	31	35	34	30	28	38	38	42	40	34	27.9
	Minimum	−10	− 1	−26	− 22	13	22	19	12	11	17	3	−12	3	10	10	6	0	0	15	14	10	20	11	27	19	14	10	24	22	28	16	9.2
Minot §§	Maximum	20	14	3	22	38	34	28	29	35	32	28	31	30	29	22	28	26	35	37	42	42	35	40	48	41	39	43	50	51	53	40	33.4
	Minimum	− 8	2	−23	− 26	− 9	18	20	18	18	18	15	15	15	18	1	2	5	3	14	19	19	19	21	23	21	23	16	18	17	11	22	11.1
Mott	Maximum	13	19	8	30	39	34	32	33	29	26	21	23	27	25	22	17	16	23	33	37	37	36	38	40	36	36	42	35	36	40	43	29.9
	Minimum	15	− 9	−21	8	15	18	22	13	15	14	11	− 5	13	12	16	14	− 2	− 7	13	12	16	15	12	16	16	15	25	18	16	16	20	10.5
Napoleon §§	Maximum	23	14	− 4	15	37	30	27	28	33	28	29	30	31	26	28	23	20	21	25	36	40	37	40	41	40	36	42	45	45	65	46	31.8
	Minimum	−11	8	−25	− 28	2	16	18	13	10	13	18	16	16	4	− 5	4	0	− 8	− 5	16	16	15	14	16	21	20	10	12	17	18	21	7.6
New England	Maximum	14	20	22	14	46	44	41	39	38	36	30	28	30	35	30	27	24	35	29	44	44	43	48	51	44	44	46	53	53	55	44	37.2
	Minimum	− 4	− 9	−22	− 24	16	20	18	17	16	20	4	− 9	15	12	12	13	− 1	7	18	21	26	15	22	26	22	20	15	15	20	29	22	12.0
New Salem	Maximum	23	12	8	13	41	32	32	28	33	28	28	32	22	33	24	24	21	25	36	38	38	38	40	41	40	26	46	42	55	56	42	32.2
	Minimum	− 9	− 5	−22	− 25	− 8	18	17	15	16	18	19	13	13	15	8	12	0	− 2	12	17	17	23	17	26	18	18	17	27	16	16	19	11.4
Orange	Maximum	26	19	6	11	43	40	33	32	30	29	26	28	26	30	24	22	20	28	33	39	38	37	38	43	38	34	46	42	50	58	44	32.7
	Minimum	−11	− 2	−22	− 23	11	10	19	12	14	19	5	2	8	14	13	15	16	4	12	16	12	25	17	28	21	19	13	29	19	35	19	11.6
Oriska	Maximum	8	8	8	11	28	30	30	30	28	27	27	30	29	28	28	26	26	28	35	41	46	40	43	46	48	38	43	53	56	64	50	32.4
	Minimum	−15	−15	15	− 22	26	16	16	16	15	19	19	19	19	18	18	19	18	0	20	28	28	22	25	5	38	25	20	25	32	28	20	14.0
Park River	Maximum	16	16	8	7	25	27	27	29	33	29	25	30	27	26	27	24	24	22	30	38	36	36	42	42	41	39	41	....	43	59	54	[a]30.8
	Minimum	16	2	−18	− 21	6	18	18	9	16	19	14	− 9	22	14	17	16	10	....	5	20	23	25	26	9	26	27	19	....	....	29	23	[c]12.5
Pembina §§	Maximum	20	14	4	10	22	28	30	28	32	28	30	32	30	31	28	22	26	30	32	34	36	38	32	28	34	32	42	40	36	32	42	29.1
	Minimum	− 4	0	−30	− 26	18	10	12	0	10	18	12	10	12	18	14	12	10	12	12	14	26	24	26	18	16	22	20	30	22	18	16	10.8
Power	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towner	Maximum	18	12	6	11	33	32	38	26	33	30	28	29	30	31	28	28	27	28	26	42	53	36	40	40	43	37	46	44	49	53	44	32.6
	Minimum	− 6	− 5	−27	− 28	10	15	15	6	18	23	18	12	22	13	8	12	6	− 1	15	18	15	20	19	31	22	24	33	31	24	32	29	13.7
Turtle Lake	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton §§	Maximum	29	20	14	12	28	34	35	31	30	36	34	36	30	31	34	31	28	23	36	40	41	40	42	45	51	38	43	48	49	55	52	35.4
	Minimum	− 9	− 4	12	− 8	1	10	24	15	15	24	24	16	21	15	16	23	16	− 4	4	20	27	28	29	30	30	29	24	28	29	33	31	16.9
Westhope	Maximum	16	10	− 1	16	16	26	26	25	27	30	28	30	32	28	28	28	26	34	37	40	38	36	40	37	38	40	42	38	44	46	43	30.5
	Minimum	−10	− 8	−30	− 26	9	11	10	5	8	10	13	8	20	12	8	10	2	4	17	18	22	20	26	28	28	22	20	28	22	22	20	11.3
Williston	Maximum	15	11	− 3	24	35	32	28	27	20	27	24	23	28	27	24	19	24	38	35	37	38	35	37	40	34	34	43	38	46	41	34	39.5
	Minimum	7	15	−26	18	23	23	22	5	11	18	16	5	1	16	11	8	0	4	20	23	18	15	22	27	20	16	20	25	19	26	24	12.0
Willow City	Maximum	17	13	− 3	12	34	32	26	25	32	30	27	30	28	29	27	28	26	27	34	41	37	34	39	38	41	35	44	40	41	47	41	30.7
	Minimum	− 8	− 3	29	29	10	15	18	3	21	22	16	8	18	14	12	16	6	2	13	20	25	22	22	30	24	24	22	31	26	22	26	13.5
Zap	Maximum	19	11	5	17	41	34	32	29	32	29	28	32	35	35	22	25	21	31	36	40	38	38	39	41	39	38	48	42	46	41	42	32.5
	Minimum	−12	8	−26	− 26	13	15	22	17	21	21	16	6	17	19	8	17	0	− 2	17	17	17	23	18	32	18	23	16	34	15	22	20	12.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
F

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JUN 8 1917

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

APRIL, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MAY 26, 1917.

Departure of the Mean Temperature from the Normal, April, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXVI. Bismarck, N. D., April, 1917. No. 4.

GENERAL SUMMARY.

Generally unfavorable weather conditions prevailed over North Dakota during April. Excessive ground moisture in parts of the Red River Valley and frozen ground in many parts of the State interfered seriously with farm work, especially with plowing and seeding. The mean temperature for the month was the lowest, with but three exceptions, in the climatological history of the State. This condition was due mostly to low night temperatures, frosts and freezing temperatures occurring in all parts of the Section throughout the entire month. As a result of the unseasonably low temperatures, vegetation and foliage were very backward, and the germination of small grains was retarded. There was more than the usual cloudiness, and the precipitation was somewhat above the normal. The distribution of precipitation was quite uniform geographically, but nearly all occurred during the last half of the month. Several serious floods occurred in the Missouri River Valley, but owing to timely warnings losses were reduced to a minimum.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.08 inches. The highest was 30.47 inches at Bismarck, Burleigh County, on the 7th; the lowest was 29.56 inches at Bismarck, Burleigh County, and Williston, Williams County, on the 9th.

TEMPERATURE.

The mean temperature for the State was 37.2°, or 4.5° below the normal, and 2.0° lower than the average for April, 1916. The highest mean reported was 41.5° at Fullerton, Dickey County; the lowest was 32.8° at Hannah, Cavalier County. The highest temperature reported was 73° at Orange, Adams County, on the 9th; the lowest was 5° at Howard, Divide County, on the 1st. The greatest monthly range of temperature was 63° at New Salem, Morton County; the least was 35° at Hillsboro, Traill County. The greatest daily range was 51° at Orange, Adams County, on the 9th. Usually the highest temperature occurred on the 9th or 20th, and the lowest on the 1st or 2d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 76 per cent, the average at 7 a. m. being 87 per cent, and at 7 p. m. 65 per cent.

PRECIPITATION.

The average precipitation for the State was 1.68 inches, or 0.30 inch above the normal, and 0.28 inch more than the average for April, 1916. The greatest monthly amount reported was 4.22 inches at McLeod, Ransom County; the least was 0.24 inch at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 1.90 inches at McLeod, Ransom County, on the 18th. The average snowfall for the State was 5.6 inches. The average number of days with with 0.01 inch or more of precipitation was 7. The greater portion of the precipitation occurred during the last half of the month. Particularly stormy periods were the 6th-7th, 16th to the 25th, inclusive, and the 29th-30th.

WIND.

The prevailing direction of the wind was northeast. The average hourly velocity, determined from the records of four stations, was 9.7 miles. The greatest wind movement was 8,256 miles at Devils Lake, an average of 11.5 miles per hour; the least was 5,930 miles at Moorhead, an average of 8.2 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 43 miles per hour from the east at Bismarck on the 17th.

SUNSHINE AND CLOUDINESS.

The sunshine was deficient; the average number of clear days was 9, partly cloudy days 9, and cloudy days 12.

ERRATA, MARCH, 1917.

Page 20: Total snowfall at Donnybrook should be 2.2 inches; mean temperature at Marstonmoor should be 20.4°; number of days with .01 inch or more precipitation at Minot should be 13.

Page 21: Precipitation at Donnybrook on the 12th should be .08, on the 15th .05, and total 0.23 inch.

Page 22: Minimum temperature at Bismarck on the 18th should be 1°.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−3.8	75	− 2	2.65	+1.18	7	10	6	14	ne.
1893...	34.3	−7.1	77	− 8	1.73	+1.26	6	7	9	14	nw.
1894...	42.8	+1.4	92	12	3.06	+1.49	9	7	9	12	se.
1895...	49.6	+8.2	87	10	2.23	+0.76	5	13	8	9	nw.
1896...	40.1	−1.3	92	2	4.37	+2.90	9	9	8	13	nw.
1897...	40.8	−0.6	93	7	1.01	−0.46	5	12	8	10	nw.
1898...	41.9	+0.5	87	− 4	1.38	−0.09	5	14	9	7	nw.
1899...	38.0	−3.4	86	−22	1.36	−0.11	6	12	10	8	nw.
1900...	49.3	+7.9	93	11	0.75	−0.72	3	20	6	4	se.
1901...	44.5	+3.1	92	10	0.98	−0.49	4	12	9	9	se.
1902...	40.2	−1.2	87	− 2	1.06	−0.41	3	12	8	10	nw.
1903...	42.5	+1.1	83	8	1.23	−0.24	5	16	6	8	nw.
1904...	37.4	−4.0	91	2	1.70	+0.23	5	13	5	12	se.
1905...	40.2	−1.2	83	3	0.63	−0.84	3	15	8	7	nw.
1906...	46.7	+5.3	88	8	1.50	+0.03	5	14	7	9	nw.
1907...	31.9	−9.5	80	− 6	0.57	−0.90	4	10	9	11	nw.
1908...	43.9	+2.5	91	−19	1.47	0.00	5	16	6	8	nw.
1909...	34.2	−7.2	80	3	0.81	−0.66	6	10	9	11	nw.
1910...	48.0	+6.6	96	4	1.30	−0.17	4	16	8	6	nw.
1911...	41.5	+0.1	90	− 5	1.30	−0.17	5	15	6	9	nw.
1912...	44.4	+3.0	88	2	2.34	+0.87	7	14	8	8	nw.
1913...	46.8	+5.4	94	11	0.71	−0.76	4	16	6	8	se.
1914...	40.9	−0.5	84	2	1.66	+0.19	6	9	10	11	nw.
1915...	50.3	+9.9	99	5	1.08	−0.39	5	15	8	7	nw.
1916...	39.2	−2.2	79	− 6	1.40	−0.07	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.

Climatological Data for April, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	38.2	−3.9	59	23	17	2	32	2.21	+0.28	1.10	.....	6	12	8	10	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	38.4	−4.4	67	9	17	14	37	1.76	−0.28	0.72	4.0	5	10	9	11	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	36.7	−6.4	67	21	17	2	46	0.94	−0.20	0.35	0.2	7	13	7	10	se.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	40.4	−3.1	66	23	8	6	44	2.57	+1.49	0.52	8.2	7	8	12	10	se.	C. L. Hall.
Bierman	Slope	.....	1	38.2	.....	66	21	17	1	33	1.53	.....	0.48	1.5	10	7	4	19	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	38.5	−4.1	68	9	17	2	35	1.87	−0.01	0.89	6.0	11	5	8	17	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	35.4	−3.7	59	9	10	2	32	1.43	+0.60	0.82	.....	5	11	8	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	34.4	.....	59	9	11	1†	30	1.92	.....	0.99	.....	7	10	0	20	.....	G. H. Phelps.
Bowman	Bowman	.....	3	38.4	.....	72	21	14	1	37	1.63	.....	0.62	.....	6	16	0	14	.....	L. S. Dichl.
Buford	Williams	1,944	38	38.6	−4.1	68	22	13	1	34	1.72	+0.64	0.41	.....	5	13	4	13	e.	P. Elmore.
Cando	Towner	1,488	16	36.0[1]	−5.0	63[1]	23	16[1]	8	35[1]	1.33	+0.45	0.81	.....	2	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	5	36.2	.....	68	9	10	7	36	1.67	.....	0.40	9.4	10	7	9	14	se.	J. W. Evens.
Colgate	Steele	1,177	3	39.4	.....	60	10†	18	14	37	0.97	.....	0.60	6.0	7	11	6	13	ne.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	1.60	+0.65	1.00	14.0	3	11	13	6	nw.	S. Friswold.
Crosby	Divide	1,954	10	39.6	−1.1	65	20†	17	1	34	1.25	+0.37	0.60	6.0	6	6	7	17	e.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	36.1	−2.1	56	20	17	1	27	1.40	−0.63	0.75	6.4	6	2	13	15	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	36.1	−6.6	62	9†	15	2	36	1.18	−0.04	0.39	6.5	10	12	3	15	se.	J. C. Thysell.
Donnybrook	Ward	1,760	18	35.4	−4.0	61	20	11	1	37	1.59	+0.74	1.22	T.	4	11	9	10	se.	Geo. Michel.
Dunseith	Rolette	1,682	21	34.8	−5.6	57	20	6	2	34	2.00	+1.27	1.50	5.5	3	13	3	14	e.	J. G. Lamont.
Eckman	Bottineau	.....	12	35.8	−5.8	61	9	12	1	36	1.61	+0.63	1.00	1.0	6	10	8	12	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	38.4	−4.8	62	9	17	15	31	1.93	+0.02	0.60	.....	8	0	14	16	ne.	O. A. Thompson.
Energy ††	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	0.95	.....	0.28	.....	7	6	8	16	e.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	1.37	.....	0.50	8.0	7	13	6	11	e.	M. E. Uggen.
Fessenden	Wells	1,610	5	35.8	.....	60	9†	14	2	34	1.54	.....	0.55	3.0	7	10	10	10	nw.	G. T. Seymour.
Forman	Sargent	1,249	25	40.4	−3.5	59	9†	20	8	30	3.08	+0.87	1.05	1.0	12	11	5	14	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	41.5	−0.8	63	17	20	15	26	2.70	+0.79	0.70	9.9	5	6	9	15	ne.	F. O. Alin.
Garrison	McLean	1,901	22	37.2	−5.2	64	8	15	1	38	2.12	+1.06	0.42	6.5	9	6	14	10	se.	G. L. Robinson.
Grafton	Walsh	827	25	37.0	−3.0	57	20	19	2	31	1.52	+0.01	0.45	0	8	16	4	10	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	37.6	−4.3	57	23	20	2	26	1.37	−0.72	0.38	0.7	8	15	8	7	ne.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	38.8	.....	62	9	16	15	33	1.85	.....	0.90	0.1	4	11	8	11	nw.	G. H. Leick.
Granville	McHenry	1,504	10	37.4	−5.1	64	9	15	1	34	0.76	−0.25	0.57	T.	5	12	9	9	se.	W. A. Christianson.
Hannah	Cavalier	1,568	12	32.8	−6.3	55	20	9	14	36	0.92	−0.20	0.60	10.0	5	11	12	7	ne.	J. Moffatt.
Hansboro	Towner	1,597	9	35.7	.....	60	20	12	3	35	1.98	.....	1.00	16.0	6	16	6	8	ne.	C. E. Blackorby.
Hettinger	Adams	2,253	9	38.4	−7.1	71	9	16	20	48	0.78	+0.05	0.20	.....	9	10	3	17	ne.	A. J. Ogaard.
Hillsboro	Traill	901	11	38.2	−5.4	55	1	20	2	29	2.03	−0.09	0.66	....	9	9	17	4	ne.	F. E. Mayall.
Howard	Williams	2,275	10	33.2	−7.3	59	21	5	1	36	3.05	+1.95	1.70	15.0	6	5	7	18	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	36.6	−5.9	61	9	11	1	34	1.16	−0.63	0.45	2.0	7	9	3	18	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	35.6	−3.9	54	20	15	2	29	1.18	−0.40	0.32	12.0	7	9	16	5	ne.	C. R. Pettes.
Lamoine	Kidder	1,936	9	35.6	−7.0	64	9	12	1	38	1.56	+0.71	.....	6.0	4	10	12	8	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	21	33.8	−4.5	53	20	11	3	32	1.37	+0.33	0.45	T.	6	15	2	13	ne.	R. T. Burke.
Larimore	Grand Forks	1,134	22	36.6	−3.5	55	23†	19	8	32	2.06	+0.54	0.90	6.0	8	13	5	12	n.	G. G. Graham.
Lisbon	Ransom	1,091	13	38.2	−4.5	56	20	18	15	30	1.53	−0.51	0.67	T.	8	13	6	11	nw.	W. S. Adams.
McHenry	Foster	1,509	7	37.4	.....	58	20	15	2†	33	1.31	.....	0.95	7.5	3	20	7	3	ne.	P. E. Trudeau.
McKinney	Renville	1,640	23	37.0	−3.5	62	9†	12	1	39	0.70	−0.25	.....	.....	5	2	21	7	e.	N. P. Swenson.
McLeod	Ransom	1,075	5	40.0	.....	73	9	21	1†	41	4.22	.....	1.90	1.0	9	11	5	14	nw.	R. D. Markland.
Maddock	Benson	.....	2	37.0	.....	59	9†	15	14	33	2.57	.....	0.80	.....	4	1	17	12	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	38.0	.....	65	9	15	2	35	1.87	.....	0.78	.....	12	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	37.4	−4.7	62	9	15	2	35	1.28	+0.02	0.56	2.0	7	9	9	12	ne.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	1.31	.....	0.55	.....	5	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	36.6[a]	.....	67[a]	21	11[a]	2	35[b]	1.13	.....	0.28	4.1	12	8	6	16	nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	36.8[c]	.....	62[c]	20	10[c]	2	39[c]	1.37	.....	0.48	4.2	6	.....	.....	.....	ne.	H. H. McCumber.
Mayville	Traill	975	21	38.8	−3.9	57	21	19	2	29	1.98	+0.31	0.68	.....	9	12	6	12	ne.	W. C. Gould.
Melville	Foster	1,590	19	37.4	−2.5	58	9†	17	2	38	1.72	+0.70	1.00	3.0	3	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	3.17	.....	1.09	2.0	8	7	8	15	n.	Hj. Edman.
Minot	Ward	1,557	21	34.8	−6.7	65	9	11	5	40	1.87	+0.61	0.98	0.5	7	7	9	14	se.	W. I. Faris.
Minto	Walsh	820	24	37.5	−3.1	59	23	18	2†	30	1.51	−0.10	0.37	.....	8	14	5	11	ne.	C. M. Evans.
Mott	Hettinger	2,424	10	36.4	−6.8	67	9	16	2	27	1.82	+0.57	0.53	7.0	9	6	8	16	e.	O. H. Opland.
Napoleon	Logan	1,955	25	36.4	−5.0	67	9	12	2	42	2.27	+0.53	1.00	17.0	11	9	5	16	se.	C. J. Hoof.
New England	Hettinger	2,400	23	39.8	−2.7	67	9	14	15	37	1.05	+0.07	0.25	6.0	5	6	11	13	se.	J. M. Connolly.
New Salem	Morton	2,163	12	36.2	−6.8	69	9	6	7	43	1.82	+0.69	0.80	14.0	7	6	12	12	se.	J. Christianson.
Orange ††	Adams	2,586	8	37.2	.....	73	9	16	4†	51	0.97	.....	0.40	7.0	4	1	15	14	ne.	T. F. Young.
Oriska	Barnes	1,270	12	38.0	−5.8	57	20	18	2†	36	1.81	+0.09	0.75	8.0	6	.....	.....	.....	n.	J. J. Taylor.
Park River	Walsh	998	13	37.4[c]	−4.1	58[c]	22	18[c]	2†	33[c]	1.94	+0.61	0.38	.....	9	.....	.....	.....	ne.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	1.24	.....	0.78	.....	3	6	10	14	e.	J. A. Johnson.
Pembina	Pembina	789	43	37.5	0.0	62	23	19	12	33	0.24	−1.41	0.10	.....	5	15	7	8	ne.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	1.95	.....	0.85	11.0	6	5	15	10	nw.	C. Frank.
Sanish	Mountrail	2,200	.....	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.80	20.0	4	.....	.....	.....	.....	E. H. Senechal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.28	.....	0.68	.....	7	8	0	22	ne.	T. C. Taylor.
Steele	Kidder	1,857	20	38.9	−5.3	61	21	20	1†	27	2.75	+1.69	0.75	6.0	11	8	15	7	.....	H. S. Wood.
Taylor	Stark	2,493	1	36.7	.....	60	9†	15	7	33	1.40	.....	0.45	.....	10	4	9	17	e.	H. Leutz.
Towner	McHenry	1,482	15	37.2	−4.5	63	9	14	1	36	1.02	−0.27	0.58	1.0	4	8	11	11	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Jones.
Wahpeton	Richland	962	23	40.1	−4.3	60	10	22	14	30	3.02	+0.68	0.84	0.6	9	15	3	12	se.	F. E. Smith.
Walhalla	Pembina	966	10	36.7	−3.2	70	21	12	2	38	2.20	+0.97	0.80	3.0	6	16	4	10	n.	Ivan Lee.
Washburn	McLean	1,734	18	39.2	−5.0	65	10	15	1	38	0.93	−0.12	0.44	.....	5	5	18	7	nw.	J. T. McCulloch.
Watford	McKenzie	.....	.....	37.5[b]	.....	65[b]	20	10[b]	7	54[b]	2.44	.....	0.85	.....	9	8	11	11	e.	M. E. Johnson.
Westhope	Bottineau	1,508	11	35.4	−4.6	62	20	10	1	36	2.81	+1.83	1.00	.....	5	5	19	6	ne.	W. A. Meddaugh.
Williston	Williams	1,875	38	36.8	−3.2	62	22	14	1	31	1.28	+0.05	0.62	1.6	9	6	9	15	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	35.8	−4.4	60	9	15	1†	32	1.12	+0.19	0.81	3.0	3	2	19	9	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	34.8	.....	61	9	7	7	33	1.04	.....	0.23	8.0	9	10	4	16	se.	H. A. Crandall.
Moorhead, Minn	Clay	935	36	39.2	−2.2	58	23	21	14	28	1.90	−0.43	0.72	3.2	10	11	9	10	n.	U. S. Weather Bureau.
Averages				37.2	−4.5	73	9	5	1	51	1.68	+0.30	1.90	5.6	7	9	9	12	ne.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for April, 1917.

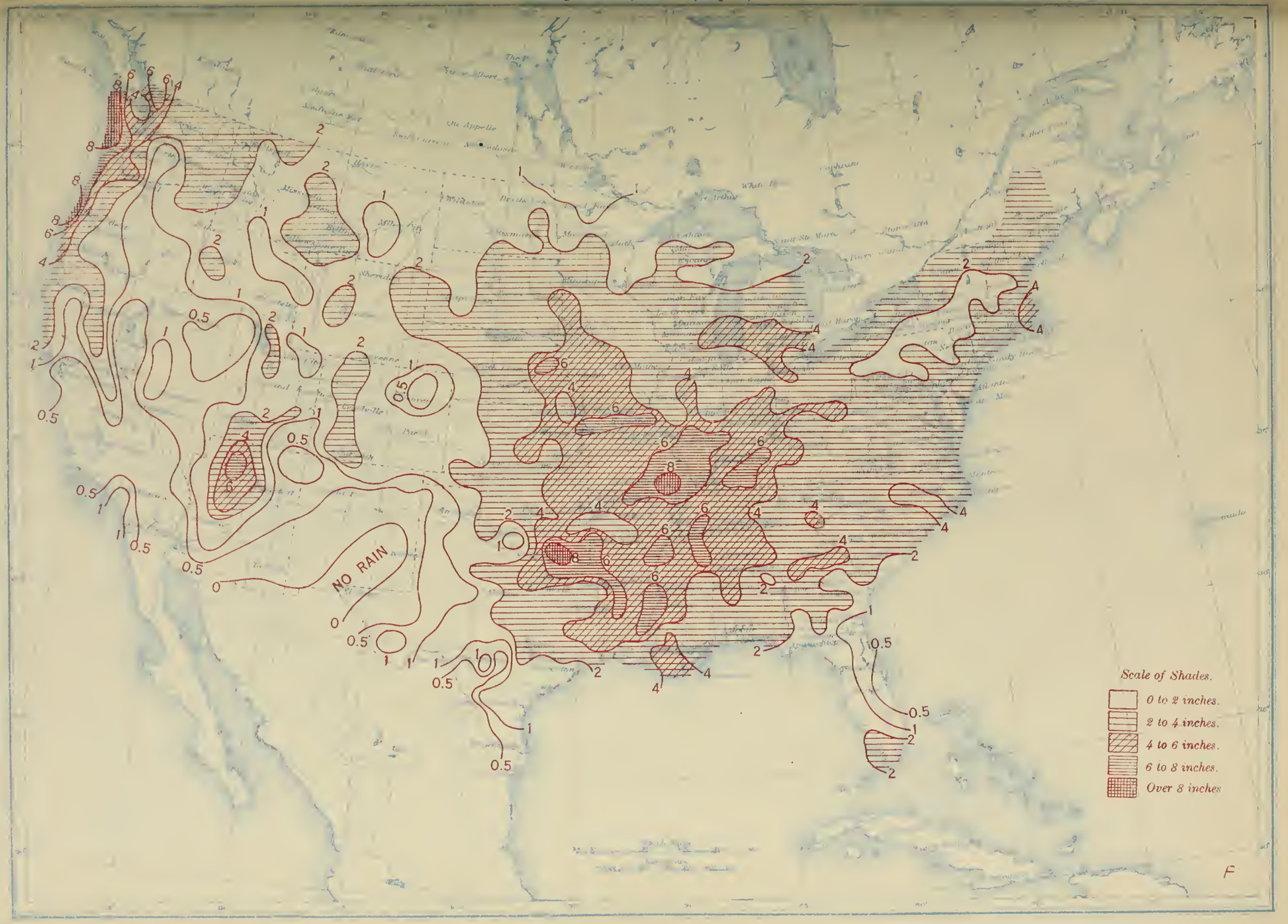
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red							T.				.02						.65	.15						T.	1.10	T.			.27	.02		2.21
Ashley	Missouri						.23	.05									.51							.72				T.	.25			1.76
Beach	Lit. Missouri	T.				.02	.14							T.			.05	.18					.35	.15			.05	T.	T.	T.		0.94
Berthold Agency	Missouri					.48								.26	T.		.28	T.	.52			.29	T.	.34	.40	T.							2.57
Bierman	Lit. Missouri	T.				.22	.10							.48			.09	.10					.10	.18	.08			T.	.10	.08			1.53
Bismarck ***	Missouri					T.	.27				.11			.07	.01		.89		.03				.04	.10	.26	T.			.02	.07			1.87
Bottineau ‖ ‖	Mouse	.01																.26	T.	T.				.02	.82	.32							1.43
Bowbells ‖ ‖	Mouse						.13							.05	.30			.20	.15	.10					.99								1.92
Bowman	Grand													.62			.07						.14	.28	.38				.14				1.63
Buford	Missouri					T.	.95										.05	T.	.05					.41	.26		T.		T.	T.	T.		1.72
Cando	Sheyenne																	.52							.81								1.33
Carson	Heart						.25				.10			.40			.20						.20	.12	.33	.03			.02	.02			1.67
Colgate	Sheyenne					T.					T.						.04	.20	.08	.02				T.	.60	T.			T.	.02	.01		0.97
Cooperstown	Sheyenne																.40								1.00					.20			1.60
Crosby	Mouse						.10							T.			.25	.10	.15					T.	.60						.05		1.25
Devils Lake ***	Sheyenne										T.						.43		.11		.01		T.	.04	.75					.06	T.		1.40
Dickinson ‖	Heart						.20	.05						.01	.39		.05	.10	T.				T.	T.	.21	.02			.03	.02	.10		1.18
Donnybrook	Mouse	T.					T.							.01			.23	.13							1.22								1.59
Dunseith	Mouse																T.	.25					T.	.25	1.50	T.							2.00
Eckman	Mouse																.11	.14	.05					.29	1.00	.02							1.61
Edgeley	James						.08	.12			T.						.40	.20	.07	.17					.60					.29			1.93
Energy	Missouri						.08										.28		.02				.15	.26	.06					.10			0.95
Epping	Missouri						.30							.18			.15	.06						.50	.10						.08		1.37
Fessenden ‖ ‖	James											T.						.55	.15					.06	.45	.24	T.	T.		.06	.03		1.54
Forman	Sheyenne						1.05	.10									.25	.08	.20	.04			.08		.70	.12			.12	.20	.14		3.08
Fullerton	James						.49				.35						.70								.46					.70	T.		2.70
Garrison	Missouri						.42						.33	.04			.35	.18					.05	.40	.33	T.				.02			2.12
Grafton ‖ ‖	Red					T.												.17	.25	.02				.20		.30	.10			.03	.45		1.52
Grand Forks	Red		T.								T.						.33		.03	.01		.07		T.	.32	.12				.38	.11		1.37
Grand Rapids	James						T.										.55			.10					.30				.30	T.	T.		1.85
Granville	Mouse													T.			.04	.06					.07	.57	.02					T.			0.76
Hannah	Pembina				.20												*	.12	T.				T.		*	.60					T.		0.92
Hansboro	Red				.10												.10	.50	.20					.08	1.00								1.98
Hettinger	Grand						T.	T.			T.			.18			.05	.02	T.				.15	.06	.20	T.			.03	.01	.08		0.78
Hillsboro	Red											.05					.10	.48	.13	.01					.66	.29				.25	.06		2.03
Howard	Missouri	T.				1.70							T.			.18	T.	.30					.43	.32	.12	T.		T.	T.	T.	T.		3.05
Jamestown ‖ ‖	James												T.					.30	T.				.05	.02	.45	.15	.02			.17			1.16
Lakota	Sheyenne				T.						T.						.10	.10	.20					T.	.32	.16	T.			.10	.20		1.18
Lamoine	Missouri												T.				.60							*	*	.96				T.			1.56
Langdon ‖	Pembina					T.												.36	.27	.07		T.		.11	T.	.45					.11		1.37
Larimore ‖	Red						.05					.02						.40	T.	.10	.20			.04		T.	.90			T.	.35		2.06
Lisbon ‖	Sheyenne							.08										.67	.12	.06	T.				.05	.22				.21	.12		1.53
McHenry	James										T.						.16			.20					.95								1.31
McKinney	Mouse	T.					T.							T.				.10	T.				*	*	*	.60							0.70
McLeod	Sheyenne						.05	.02	T.								.61	.10	1.90	.14					1.00	.15					.25		4.22
Maddock	Sheyenne																	.41	.80						.76	.60							2.57
Mandan ‖	Missouri						.32	.08				.01			.10		.04	.78	.01					.03	.26	.11	T.			.09	.04		1.87
Manfred	Sheyenne										T.						.35	.09	.07				.08		.56	.08				.05			1.28
Manning	Knife						.23							.21					.28	.04				.55										1.31
Marmarth	Lit. Missouri	.05		T.		T.	.02							.28		*	.13	.05				T.	.08	.23	.12			.02	.12	.03			1.13
Marstonmoor	James				T.						T.			T.			.30	.36					.10	T.	.48	.02		T.		.11	T.		1.37
Mayville	Red											.02					.10	.60		.10		.02	T.		.10	.68				.20	.16		1.98
Melville	James										T.						.30		T.				T.		1.00						.42		1.72
Milnor	Red						.20	.30									.60	T.	.40	.08					1.09				T.	.30	.20		3.17
Minot ‖	Mouse						T.	.04										.25	.15					.30	.98	.10					.05		1.87
Minto	Red										T.								.32	.10				.14	.37	.13	.01			.15	.29		1.51
Mott	Cannon Ball						.22				.04			.53			.40					.07		.21	.02				.17	.10			1.82
Napoleon ‖	Missouri							.15				.10					T.	1.00	.15	.02	.03			.08	.33	.10				.20	.11		2.27
New England	Cannon Ball													.20		.20	.20							.20	.25								1.05
New Salem	Heart						.80				.02			.09			.40							.08	.24				T.	.19			1.82
Orange	Cannon Ball													.30			.40					.01			.26								0.97
Oriska	Sheyenne						T.			.03							.11	.45	.15	T.					.75					.32			1.81
Park River	Red										.01						.02	.38	.27					.18	.38		.22			.11	.37		1.94
Parshall	Missouri						.08							.38										.78										1.24
Pembina ‖	Red											.04							.04	.02						.04						.10		0.24
Power	Sheyenne																																
Powers Lake	Missouri					.10								.85	T.		T.	.15	.25					.50	T.					.10	T.		1.95
Sanish	Missouri						.80									.30							.20							.10			1.40
Searing	Lit. Missouri						.01										.23		.15					.68	.07				.06	.08			1.28
Steele	Missouri			.20		.16				.38	T.						.75	.09					.04	.09	.59	.15		T.	.05	.25			2.75
Taylor	Heart					T.	.34	.01						.45			.22	.02	.01				T.	.07	.15	T.			.01	.12			1.40
Towner	Mouse																	.25	T.					.07	.58	.12							1.02
Turtle Lake	Missouri																																
Wahpeton ‖	Red							.34										.36	.50	.10	.37		.02		T.	.84	T.			.40	.09		3.02
Watford	Lit. Missouri																	.38	.10					.80	.31	.23					.38		2.20
Walhalla	Pembina						.09							.09			.44							T.	.23				.08				0.93
Washburn	Missouri						.43							.85			.12	.09					.14	.65	.02				.03	.11			2.44
Westhope	Mouse	T.															.80	.12	.19				.70		1.00								2.81
Williston ***	Missouri					.02	.23							.05			.18	.04	.08				T.	.60	.05	T.			T.	.03			1.28
Willow City	Mouse																.10	.21							.81	T.							1.12
Zap	Knife						.18							.20			.15		.04				.01	.13	.23					.09	.01		1.04
Moorhead, Minn ***	Red						.07				T.						.40	.06	.10	.22					.72	.02			.06	.21	.04		1.90

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	43	49	49	53	54	48	46	53	56	53	43	47	48	47	46	48	46	52	42	57	51	54	59	36	41	49	48	48	42	47	....	48.5
	Minimum...	24	17	20	23	25	27	25	21	31	33	31	24	22	21	19	26	30	34	36	33	32	27	35	34	30	27	29	31	32	36	....	27.8
Ashley	Maximum...	41	45	47	52	54	45	47	46	67	56	42	42	42	49	42	36	39	51	49	62	60	54	59	50	40	50	52	47	39	47	....	48.4
	Minimum...	20	18	25	20	27	32	24	24	30	22	25	27	26	17	27	32	28	36	35	31	32	32	38	38	30	24	24	24	28	33	....	28.4
Beach	Maximum...	39	39	40	43	56	49	43	64	60	41	51	43	40	42	35	38	40	44	58	64	67	64	56	47	42	45	48	46	45	46	....	47.8
	Minimum...	19	17	30	25	29	23	20	18	30	31	19	27	28	25	24	21	23	32	24	26	28	36	34	32	29	23	28	21	23	23	....	25.6
Berthold Agency	Maximum...	42	46	53	55	55	41	65	63	64	39	55	54	54	51	57	48	45	49	58	65	65	64	66	55	47	52	55	48	50	52	....	54.4
	Minimum...	16	14	18	22	29	8	24	30	33	28	29	26	31	31	20	28	31	34	24	21	29	37	30	34	31	21	26	31	32	25	....	26.4
Bismarck	Maximum...	40	46	48	54	49	42	43	50	68	44	46	49	39	51	44	35	37	52	53	64	57	57	57	47	40	49	43	47	42	49	....	48.1
	Minimum...	21	17	23	19	24	31	23	30	33	32	30	23	30	28	21	30	29	34	34	30	33	36	40	34	31	25	31	34	32	30	....	28.9
Bottineau §§	Maximum...	32	42	48	48	46	41	45	51	59	40	51	48	48	49	44	43	42	40	52	58	48	46	47	34	44	47	44	51	46	47	....	46.0
	Minimum...	12	10	15	17	21	24	19	22	29	29	30	21	22	20	22	24	29	32	29	24	29	28	31	32	28	29	26	30	33	28	....	24.8
Bowbells §§	Maximum...	32	39	41	42	44	40	42	48	59	55	50	44	35	41	40	42	35	42	45	58	49	55	49	45	45	46	42	45	40	43	....	44.4
	Minimum...	11	13	11	18	20	22	18	21	29	28	26	21	28	29	19	21	29	28	27	29	29	29	30	33	28	26	25	26	29	26	....	24.3
Carson	Maximum...	40	43	45	52	45	40	36	54	68	40	47	50	35	40	40	35	35	50	52	60	60	55	57	55	36	45	40	44	40	45	....	46.1
	Minimum...	18	17	22	20	26	28	10	24	32	30	25	27	28	29	20	28	25	32	28	27	30	34	39	32	29	23	27	28	30	25	....	26.4
Colgate	Maximum...	40	50	50	55	59	47	50	55	58	60	48	50	56	55	50	50	45	53	46	60	55	56	58	50	50	45	51	52	45	50	....	51.6
	Minimum...	23	20	22	22	24	26	22	27	31	31	28	24	22	18	19	27	25	37	33	32	30	29	32	30	30	25	28	32	35	35	....	27.3
Crosby	Maximum...	42	50	40	60	48	42	40	48	58	42	50	52	56	45	40	42	40	48	55	65	64	65	50	42	52	46	48	55	50	45	....	49.3
	Minimum...	17	22	23	26	30	27	28	30	36	33	32	36	37	33	23	25	31	32	30	31	31	33	32	34	32	30	31	32	35	28	....	30.0
Devils Lake	Maximum...	33	41	44	48	47	40	43	49	55	40	42	47	48	46	43	45	42	41	48	56	47	49	53	44	41	46	46	51	44	44	....	45.4
	Minimum...	17	19	21	22	26	26	20	24	33	29	23	22	25	19	20	23	32	34	33	29	32	29	35	31	30	27	27	32	34	31	....	26.8
Dickinson	Maximum...	36	45	45	50	47	38	42	58	62	35	51	57	39	39	37	39	35	42	55	61	59	62	52	38	40	45	42	40	42	47	....	46.0
	Minimum...	18	15	22	19	25	33	16	25	28	35	18	28	28	28	22	22	28	32	28	25	30	33	32	36	27	20	28	28	31	27	....	26.2
Donnybrook	Maximum...	34	41	42	47	46	42	42	50	59	57	49	48	43	37	43	40	37	42	53	61	54	54	51	45	43	46	43	46	41	44	....	46.3
	Minimum...	11	12	13	16	24	24	15	27	30	29	28	23	30	30	17	23	29	31	27	24	26	31	28	30	28	23	24	27	31	27	....	24.6
Dunseith	Maximum...	31	40	40	45	42	40	42	47	55	45	55	54	46	44	42	42	38	38	50	57	55	42	45	45	38	45	43	48	47	44	....	44.8
	Minimum...	10	6	13	18	21	27	17	36	31	27	31	20	26	22	19	22	30	32	29	26	30	20	33	30	32	24	22	31	30	25	....	24.7
Edgeley	Maximum...	45	45	47	53	53	49	45	48	62	59	43	42	43	49	45	41	43	52	48	60	59	53	59	50	42	47	45	48	40	47	....	48.7
	Minimum...	20	29	22	22	24	31	21	23	32	33	27	22	25	20	17	31	29	37	32	31	31	31	38	34	31	27	28	33	32	33	....	28.2
Fessenden §§	Maximum...	37	45	48	50	51	40	45	51	60	39	48	48	45	49	45	44	39	45	50	60	52	48	59	35	43	48	46	51	46	46	....	47.1
	Minimum...	17	14	16	17	19	24	17	21	32	28	39	19	19	17	16	22	25	31	33	26	29	30	31	32	28	25	25	28	31	30	....	24.4
Forman	Maximum...	45	47	51	52	53	51	48	50	59	57	43	46	44	48	48	44	47	54	57	55	57	54	59	52	40	48	46	46	41	46	....	49.6
	Minimum...	26	25	27	25	27	21	29	20	32	36	34	24	25	35	24	33	32	42	36	35	37	33	38	32	32	30	32	34	31	36	....	31.1
Fullerton	Maximum...	47	47	46	51	51	41	43	49	48	53	51	50	43	48	43	37	63	61	52	57	57	58	60	55	58	57	51	47	39	47	....	50.3
	Minimum...	24	23	26	25	27	32	27	45	34	35	35	39	27	22	20	33	33	40	34	38	34	40	45	43	38	40	43	38	40	43	32	32.7
Garrison	Maximum...	36	46	45	56	52	47	52	64	56	49	49	47	50	45	45	40	35	39	45	63	59	57	58	48	40	48	44	49	43	46	....	48.4
	Minimum...	15	16	18	18	24	28	28	30	30	28	22	30	29	18	18	30	33	28	25	29	34	32	36	31	33	30	23	28	31	23	....	26.1
Grafton §§	Maximum...	36	42	46	45	48	44	48	46	54	48	35	48	48	46	47	53	45	44	49	57	43	50	56	41	43	50	51	56	45	45	....	47.0
	Minimum...	20	19	21	25	26	26	21	20	29	30	27	19	29	20	21	24	31	34	33	30	32	24	35	35	30	25	27	29	33	34	....	27.0
Grand Forks	Maximum...	36	41	45	46	50	45	44	48	53	50	33	46	47	46	45	44	44	49	45	54	44	50	57	47	40	49	50	53	42	46	....	46.3
	Minimum...	25	20	26	27	27	29	22	22	35	32	26	21	28	22	21	25	32	38	35	32	28	28	38	33	30	27	26	36	37	35	....	28.8
Granville	Maximum...	42	48	49	53	55	52	45	50	62	55	45	44	43	50	45	42	45	52	48	59	56	54	59	51	40	48	46	47	40	46	....	49.0
	Minimum...	24	19	21	20	24	32	26	23	34	34	32	22	26	17	16	31	31	39	32	32	36	31	38	32	31	26	27	33	32	35	....	28.5
Hannah	Maximum...	31	36	39	35	34	36	38	45	42	40	42	46	44	45	41	49	44	46	49	55	46	44	48	46	44	46	48	49	44	48	....	43.3
	Minimum...	15	14	19	19	12	14	12	20	22	21	18	20	16	9	11	12	30	31	33	25	35	24	29	33	28	30	28	30	31	29	....	22.3
Hansboro	Maximum...	33	48	42	40	40	38	42	48	53	55	54	52	44	44	42	45	40	40	50	60	53	43	48	50	42	48	47	52	50	45	....	46.3
	Minimum...	18	22	12	17	18	27	17	23	31	33	32	34	22	16	18	22	30	31	30	25	30	24	28	30	30	28	24	24	28	30	....	25.1
Hettinger	Maximum...	40	46	46	51	59	50	43	60	71	58	52	58	53	48	41	41	43	46	55	64	70	63	60	45	44	45	44	40	41	46	....	50.8
	Minimum...	18	19	27	17	25	31	18	29	27	34	17	21	30	33	21	26	24	31	27	16	28	34	34	23	20	28	29	30	25	25	....	25.9
Howard	Maximum...	30	42	40	45	43	36	35	42	54	37	45	46	41	38	34	34	40	43	57	49	59	49	40	46	47	49	43	45	46	48	....	43.4
	Minimum...	5	6	10	10	25	26	7	24	32	26	20	33	23	18	21	30	31	23	27	25	34	25	30	29	26	26	26	25	25	30	....	23.1
Jamestown §§	Maximum...	41	48	49	53	54	43	39	50	61	52	47	47	44	49	44	42	41	52	48	59	56	53	54	39	42	47	45	47	41	48	....	47.8
	Minimum...	11	20	18	14	25	22	14	22	27	32	32	21	21	18	19	19	31	32	35	30	31	30	30	33	30	26	27	30	32	32	....	25.4
Lakota	Maximum...	34	40	40	46	45	40	41	49	52	46	41	45	46	46	43	45	40	42	46	54	46	52	53	47	41	47	48	50	42	46	....	45.1
	Minimum...	19	15	21	29	22	26	20	22	32	28	27	20	20	17	22	23	31	33	33	29	22	26	34	31	29	25	26	31	33	33	....	26.0
Lamoine	Maximum...	40	48	44	48	49	40	44	48	64	48	48	46	48	46	47	37	44	47	50	60	56	53	60	44	37	44	42	47	47	48	....	47.4
	Minimum...	12	14	18	14	14	29	15	26	32	32	26	20	24	14	14	22	29	32	34	22	26	28	32	32	26	22	23	28	30	22	....	23.7
Langdon	Maximum...	31	39	43	41	40	39	42	45	50	36	39	44	42	43	42	48	42	39	47	53	39	45	50	34	43	47	46	52	44	41	....	42.9
	Minimum...	14	15	11	21	20	20	19	22	31	30	25	19	21	20	20	23	36	30	32	27	30	24	31	31	29	25	26	28	32	31	....	24.7
Larimore §§	Maximum...	36	42	52	47	47	40	41	50	51	50	40	45	42	45	43	48	41	44	44	54	44	50	55	55	40	47	47	50	41	43	....	45.8
	Minimum...	22	20	20	20	26	25	24	19	33	34	28	20	24	20	27	22	24	36	35	30	32	22	35	40	30	26	26	30	34	35	....	27.3
Lisbon §§	Maximum...	48	47	47	44	54	44	46	52	52	56	44	44	44	49	45	42	48	50	46	56	54	52	48	46	42	49	48	48	46	46	....	47.9
	Minimum...	28	20	20	20	24	30	28	24	26	32	32	22	24	20	18	28	29	32	37	37	34	32	38	29	30	26	30	34	33	36	....	28.4
McHenry	Maximum...	37	45	48	51	50	40	45	50	52	45	50	48	50	48	44	50	42	46	49	58	48	50	57	48	40	50	40	51	44	50	....	47.5
	Minimum...	20	15	20	30	35	17	20	20	25	30	35	20	20	15	35	25	32	34	34	29	30	37	30	29	30	23	24	31	34	34	....	27.2
McKinney	Maximum...	38	42	43	42	48	45	45	52	62	54	51	50	46	52	45	41	42	44	56	62	54	54	52	44	48	53	44	52	50	48	....	48.6
	Minimum...	12	14	15	16	25	28	14	28	32	30	29	20	31	28	16	20	30	32	29	23	29	31	28	32	29	22	25	28	31	37	....	25.5
Maddock	Maximum...	38	42	44	49	48	45	44	49	59	59	45	50	47	47	45	45	41	43	50	58	56	50	59	53	41	47	46	51	47	45	....	48.1
	Minimum...	17	16	20	20	22	29	20	23	33	28	30	20	25	15	20	23	31	34	32	25	28	30	34	31	29	25	28	32	33	28	....	26.0
Marmarth	Maximum...	33	42	38	42	51	41	42	62	60	44	..	62	50	47	43	33	42	45	54	60	67	57	61	44	42	40	39	37	41	44	....	[a]47.0
	Minimum...	12	11	25	19	19	29	28	27	32	28	18	..	32	23	25	25	20	31	25	25	37	37	35	33	29	33	28	26	28	21	....	[a]26.2
Minot §§	Maximum...	37	45	42	52	43	39	42	53	65	38	54	44	45	50	45	38	38	45	53	62	52	54	53	45	44	48	43	49	43	42	....	46.8
	Minimum...	12	12	12	13	11	24	12	13	30	30	28	21	20	24	14	24	25	30	29	22	25	29	32	35	28	22	25	27	30	24	....	22.8
Mott	Maximum...	46	43	39	44	46	38	50	55	67	43	55	58	36	38	38	35	42	47	54	43	47	44	36	36	38	40	35	39	38	42	....	43.7
	Minimum...	23	16	20	25	24	26	33	36	40	37	37	36	26	28	19	27	28	33	37	35	37	34	30	25	26	19	27	38	31	34	....	29.2
Napoleon §§	Maximum...	41	44	49	52	53	37	47	50	67	50	47	46	44	50	46	33	37	51	50	64	60	57	62	48	40	50	45	48	43	49	....	48.7
	Minimum...	19	12	13	20	20	23	16	22	25	32	29	18	22	14	14	15	28	29	33	26	29	30	34	39	30	20	26	30	30	29	....	24.2
New England	Maximum...	44	51	45	52	51	51	55	60	67	63	58	63	56	48	50	52	50	56	58	63	64	63	55	55	41	44	43	43	48	44	....	53.1
	Minimum...	15	18	24	20	26	30	18	24	30	30	19	27	20	22	14	26	36	34	32	34	27	34	34	34	26	23	29	30	25	32	....	26.4
New Salem	Maximum...	38	45	48	52	43	38	36	49	69	49	49	51	40	55	42	49	36	46	54	64	57	54	44	48	49	47	49	45	50	51	....	48.2
	Minimum...	15	13	18	17	19	22	6	25	26	26	26	19	27	23	14	26	27	30	38	26	27	32	31	30	30	20	27	28	30	27	....	24.2
Orange	Maximum...	40	45	47	50	56	46	41	67	73	58	49	56	44	37	37	35	36	51	52	61	66	62	61	51	40	46	40	40	39	47	....	48.9
	Minimum...	18	17	26	16	22	32	16	29	22	32	19	27	29	24	21	28	27	32	31	23	28	36	34	33	27	17	23	19	31	27	....	25.5
Oriska	Maximum...	44	51	52	54	54	53	52	55	50	46	48	52	46	44	46	42	43	48	46	57	52	55	55	42	46	47	46	46	46	..	....	[a]48.9
	Minimum...	25	18	24	28	29	25	25	19	24	24	18	22	20	18	19	31	31	33	32	33	33	34	32	29	28	30	32	32	36	..	....	[a]27.0
Park River	Maximum...	..	41	..	45	44	43	42	47	53	50	49	45	45	44	43	50	42	42	48	56	53	58	56	53	..	49	49	54	50	52	....	[c]47.9
	Minimum...	..	18	..	21	24	25	21	20	21	28	28	18	22	22	21	23	32	35	35	31	33	25	35	32	..	29	29	31	35	34	....	[c]27.0
Pembina §§	Maximum...	32	42	52	41	44	47	54	44	60	42	32	52	52	42	48	51	48	45	47	54	43	54	62	42	48	46	58	58	44	42	....	47.5
	Minimum...	22	21	22	22	24	21	23	32	28	32	27	19	21	27	24	23	31	33	31	24	32	27	36	36	31	26	29	33	34	33	....	27.5
Power	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Towner	Maximum...	38	44	45	52	45	45	45	52	63	61	49	49	48	48	45	44	39	42	45	62	57	49	53	49	46	49	45	52	48	52	....	48.7
	Minimum...	14	15	18	20	18	24	18	26	34	31	31	22	27	18	19	21	31	34	32	26	26	30	38	31	30	25	24	30	34	28	....	25.8
Turtle Lake	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Wahpeton §§	Maximum...	48	48	50	54	54	48	45	49	54	60	44	48	45	47	48	49	49	57	40	53	53	52	58	38	39	47	51	46	42	50	....	48.9
	Minimum...	38	28	26	24	28	31	32	25	34	36	32	25	28	22	23	34	35	38	37	34	35	32	37	36	32	29	28	38	33	32	....	31.3
Watford	Maximum...	..	52	45	50	49	45	39	58	62	55	..	46	50	38	39	40	36	42	58	65	56	63	52	50	43	42	43	43	44	42	....	[b]48.1
	Minimum...	..	18	15	22	28	28	10	31	33	31	..	35	36	26	22	23	31	32	24	25	27	36	26	32	25	22	25	28	31	24	....	[b]26.9
Westhope	Maximum...	38	38	42	45	48	43	46	52	53	42	52	42	48	43	45	40	42	43	52	62	52	50	51	46	43	49	45	44	43	45	....	46.1
	Minimum...	10	12	18	18	22	20	22	28	30	26	30	27	28	23	21	19	31	30	29	26	28	30	32	23	29	29	25	25	26	25	....	24.7
Williston	Maximum...	34	43	42	47	47	39	36	56	58	39	52	54	45	40	39	34	38	44	56	60	51	62	49	42	44	46	42	41	43	45	....	45.6
	Minimum...	14	20	19	25	30	24	21	33	35	25	21	32	30	28	24	28	33	33	28	32	29	39	27	31	30	27	28	30	32	28	....	27.9
Willow City	Maximum...	34	40	44	50	45	40	41	45	60	41	50	47	49	46	44	43	38	40	52	57	47	46	49	36	43	46	44	50	44	45	....	45.2
	Minimum...	15	15	19	20	22	30	19	27	33	31	30	22	28	18	19	24	32	33	30	25	31	30	36	31	29	25	27	31	34	29	....	26.5
Zap	Maximum...	36	43	43	49	43	42	35	51	61	43	50	48	43	46	41	38	40	41	46	53	48	50	49	49	40	41	41	41	41	39	....	44.4
	Minimum...	12	13	17	16	22	28	7	30	30	30	33	22	20	30	19	27	31	32	24	23	28	35	29	32	30	19	29	30	31	23	....	25.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches
F

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MAY, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JUNE 28, 1917.

Departure of the Mean Temperature from the Normal, May, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., MAY, 1917. No. 5.

GENERAL SUMMARY.

Unfavorable weather conditions generally prevailed over the entire State during May. The temperature averaged below the normal, and killing frosts occurred in various parts of the State throughout the month. The damage from frosts, however, was slight, owing to the backward condition of vegetation of all kinds. The most unfavorable condition was the precipitation, which was the lowest of record since the Climatological Service was established in 1892, the average for the State being 0.30 inch. The nearest approach to this low average was 0.31 inch in 1901. Other years with averages below one inch were 1900 with 0.69 inch, 1897 with 0.71 inch, and 1910 with 0.96 inch. The distribution of precipitation was uneven, both geographically and throughout the month. Nearly all of the precipitation occurred during the last half of the month, mostly during the last three days. Winter rye suffered to a considerable extent, in some instances the crop being abandoned and plowed under. Late sown grain was slow to germinate, and was in a very backward condition. The breaking of sod for flax was delayed to quite an extent, and will undoubtedly lessen the acreage of that crop. Corn planting made good progress, and the seeding of all small grain, with the exception of flax and barley, was completed.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.04 inches. The highest was 30.41 inches at Bismarck, Burleigh County, on the 13th; the lowest was 29.38 inches at Williston, Williams County, on the 16th.

TEMPERATURE.

The mean temperature for the State was 51.2°, or 1.4° below the normal, and 0.2° higher than the mean for May, 1916. The highest mean reported was 55.5° at Forman, Sargent County; the lowest was 47.3° at Marmarth, Slope County. The highest temperature reported was 98° at Cando, Towner County, and McKinney, Renville County, on the 16th; the lowest was 15° at Marstonmoor, Stutsman County, on the 2d. The greatest monthly range of temperature was 75° at Cando, Towner County, and Hannah, Cavalier County; the least was 55° at Granville, McHenry County. The greatest daily range was 66° at Maddock, Benson County, on the 27th. Usually the highest temperature occurred on the 15th or 16th, and the lowest on the 2d, the first decade being the coldest, and the second the warmest.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 52 per cent, the average at 7 a. m. being 68 per cent, and at 7 p. m. 36 per cent.

PRECIPITATION.

The average precipitation for the State was 0.30 inch, or 2.25 inches below the normal, and 1.91 inches less than the average for May, 1916. The greatest monthly amount reported was 2.08 inches at Bierman, Slope County; there was none at Bowbells, Burke County; Cooperstown, Griggs County; Donnybrook, Ward County, and Hansboro, Towner County. The greatest amount recorded in any twenty-four consecutive hours was 1.10 inches at Bierman, Slope County, on the 30th. The average snowfall for the State was 0.1 inch. The average number of days with 0.01 inch or more of precipitation was 2. The greater portion of the precipitation occurred during the last decade, mostly the last three days of the month.

WIND.

The prevailing direction of the wind was northeast. The average hourly velocity, determined from the records of four stations, was 8.8 miles. The greatest wind movement was 7,420 miles at Devils Lake, an average of 10.0 miles per hour; the least was 5,506 miles at Moorhead, an average of 7.4 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 37 miles per hour at Devils Lake on the 26th.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 20, partly cloudy days 7, and cloudy days 4.

ERRATA, APRIL, 1917.

Page 28: Mean temperature and departure at Grand Forks should be 37.5°, —4.4°. Total precipitation and departure at Washburn should be 1.10, +0.05.

Page 29: Precipitation data published as Watford data is data for Washburn; similarly, data published as of Walhalla is Watford data, and data published as of Washburn is Walhalla data. Also, precipitation at Washburn should be .17 on the 23d and .08 on the 29th instead of 28th, making the total 1.10 inches.

Page 30. Minimum temperature at Grand Forks on the 24th should be 32°, and the mean minimum, 28.7°.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.08	+0.53	4	14	8	9	s.
1904...	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.

Climatological Data for May, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With 01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	52.6	−1.9	88	16	28	2	46	0.17	−2.92	0.15	0	2	23	7	1	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	51.4	−1.4	86	16	23	2	44	0.41	−2.15	0.21	0	2	22	3	6	ne.	R. C. Miles.
Beach	Golden Valley	2,576	11	50.0	−0.1	92	15	20	1	47	0.50	−2.70	0.31	2.0	5	21	6	4	se.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	23	51.8[a]	−2.5	91[a]	15	21[a]	1†	51[a]	0.10	−2.65	0.10	0	1	21	6	4	se.	C. L. Hall.
Bierman	Slope		1	49.1		89	15	21	4†	46	2.08		1.10	3.5	6	15	7	9	se.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	52.6	−2.6	90	16	25	2	41	0.26	−2.24	0.25	0	2	13	10	8	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	51.7	+0.5	91	16	24	2†	46	0.02	−2.26	0.02	0	1	24	4	3	ne.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	48.6		88	15	20	30	48	0.00		0.00	0	0	25	2	4		G. H. Phelps.
Bowman	Bowman		3	50.5		88	15	28	1†	47	1.20		0.46	1.0	6	18	0	13		L. S. Diehl.
Buford	Williams	1,944	38	52.2[b]	−2.0	91[b]	15	21[b]	1	51[b]	0.21	−2.22	0.20	T.	2	19	6	6	se.	P. Elmore.
Cando	Towner	1,488	16	52.0[b]	+0.6	98[b]	16	23[a]	3	61[b]	0.61	−1.94	0.61	0	1					E. T. Judd.
Carson	Grant	2,500	5	50.3		86	15	26	1	40	1.30		0.70	0	2	17	9	5	ne.	J. W. Evens.
Colgate	Steele	1,177	3	53.2		97	16	24	27	51	T.		T.	T.	0	23	4	4	ne.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7								0.00	−2.19	0.00	0	0	27	4	0	nw.	S. Friswold.
Crosby	Divide	1,954	10	53.9	+3.8	86	15	30	30	38	0.13	−2.14	0.11	0	2	18	7	6	e.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	51.0	−1.7	91	16	27	1	40	T.	−2.20	T.	T.	0	20	7	4	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	49.1	−3.5	90	15	24	1	47	0.36	−2.22	0.20	0.2	4	21	0	10	se.	J. C. Thysell.
Donnybrook	Ward	1,760	18	49.6[b]	−0.3	90[b]	15	21[a]	1	44[b]	0.00	−2.57	0.00	0	0	22	8	1		Geo. Michel.
Dunseith	Rolette	1,682	21	50.4	−2.0	90	16	25[a]	3†	43[a]	T.	−1.69	T.	0	0	23	3	5	e.	J. G. Lamont.
Eckman	Bottineau		12	49.2[b]	−1.4	93[b]	16	19[b]	30	51[b]	0.08	−2.34	0.07	0	2	19	7	5	ne.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	51.3	−2.2	90	16	25	2	48	0.18	−2.63	0.09	0	2	7	19	5	ne.	O. A. Thompson.
Energy†‡	McLean		5								0.88		0.45	0	3	16	10	5	ne.	N. W. Solenberger.
Epping	Williams	2,224	9								T.		T.	0	0	24	7	0	se.	M. E. Uggen.
Fessenden	Wells	1,610	5	49.5		91	16	21	27	48	0.08		0.03	T.	3	25	4	2	ne.	G. T. Seymour.
Forman	Sargent	1,249	25	55.5[c]	0.0	90[a]	16	30[1]	2	36[1]	0.20	−2.70	0.10	0	2	16	14	1	ne.	A. Maltby.
Fullerton	Dickey	1,439	19	52.3	−1.2	87	16	28	1†	45	0.49	−2.72	0.45	0	2	17	10	4	ne.	F. O. Alin.
Garrison	McLean	1,901	22	50.0[a]	−3.0	89[a]	16	22[a]	1	45[a]	0.54	−1.82	0.54	0	1	18	8	5	ne.	G. L. Robinson.
Grafton	Walsh	827	25	50.8	−2.4	91	16	23	2	47	0.15	−2.08	0.15	0	1	29	0	2	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	25	51.5	−2.2	89	16	25	27	42	0.23	−2.33	0.21	0.3	2	26	3	2	ne.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	51.4		90	16	26	2†	48	0.55		0.55	0	1	24	4	3	ne.	G. H. Leick.
Granville	McHenry	1,504	10	50.4	−1.0	80	15	25	3	44	0.17	−1.86	0.15	0	2	22	4	5	s.	W. A. Christianson.
Hannah	Cavalier	1,568	12	50.0	+1.1	96	17	21	30	45	0.09	−2.50	0.09	0	1	25	4	2	ne.	J. Moffatt.
Hansboro	Towner	1,597	9	49.0		95	16	22	27	49	0.00		0.00	0	0	28	3	0	ne.	C. E. Blackorby.
Hettinger	Adams	2,253	9	49.4	−3.7	91	15	21	1	45	1.10	−1.24	0.32	0	8	17	3	11	se.	A. J. Ogaard.
Hillsboro	Traill	901	11	51.8	−1.4	88	16	29	22	46	0.18	−3.69	0.12	T.	2	18	13	0	n.	F. E. Mayall.
Howard	Williams	2,275	10	49.4	0.0	90	15	20	1	47	0.03	−2.31	0.02	T.	2	14	7	10	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	51.4	−2.2	96	16	24	2	45	0.10	−2.76	0.10	0	1	19	4	8	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	49.6	−0.5	90	16	24	2†	44	T.	−2.20	T.	0	0	19	11	1	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	50.6	−0.1	91	16	18[a]	1	50[a]	0.27	−2.08		0	3	19	7	5	nc.	E. V. Virgin.
Langdon	Cavalier	1,615	21	49.4	−1.4	91	16	21	30	45	0.16	−1.97	0.11	0	2	29	2	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	51.4	−1.3	89	16	28	2†	41	0.20	−2.18	0.20	0	1	21	8	2	nw.	G. G. Graham.
Lisbon	Ransom	1,091	13	52.7	−0.2	91	16	25	2	44	0.77	−2.68	0.35	0	3	26	1	4	nw.	W. S. Adams.
McHenry	Foster	1,509	7	52.2		91	11	24	31	47	T.		T.	T.	0	27	4	0	ne.	P. E. Trudeau.
McKinney	Renville	1,640	23	50.8	−1.3	98	16	21	1	53	T.	−2.18	T.	0	0	13	16	2	se.	N. P. Swenson.
McLeod	Ransom	1,075	5	53.6		88	16	29	2	39	0.33		0.18	0	2	20	5	6	ne.	R. D. Markland.
Maddock	Benson		2	50.7		91	16†	22	27	66	T.		T.	0	0	15	10	6	nc.	F. P. Cowing.
Mandan	Morton	1,644	3	51.8		89	15†	24	2	42	0.35		0.33	0	2	..	..	..		No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	50.8	−0.9	93	16	23	2	46	0.22	−2.30	0.16	0	2	19	7	5	ne.	P. B. Anderson.
Manning	Dunn	2,450	2								0.24		0.14	0	2					A. J. Bretzlaff.
Marmarth	Slope		8	47.3		88	15	25	5†	46	1.96		0.67	3.0	9	13	12	6	se.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	50.6[d]		89[e]	16	15[d]	2	49[e]	T.		T.	0	0	22	4	5	ne.	H. H. McCumber.
Mayville	Traill	975	21	52.4	−2.7	91	17	26	22	47	0.10	−2.85	0.10	0	1	27	2	2		W. C. Gould.
Melville	Foster	1,590	19	52.0[a]	−0.7	88[a]	16	27[a]	1†	42[a]	T.	−2.60	T.	0	0					J. P. Kidder.
Milnor	Sargent	1,097	5								0.36		0.26	0	2	24	6	1	n.	Hj. Edman.
Minot	Ward	1,557	21	50.0	−2.3	91	15	22	1	48	0.06	−2.05	0.06	0	1	21	9	1	ne.	W. I. Faris.
Minto	Walsh	820	24	52.0	−1.4	91	16	25	2†	46	0.16	−2.33	0.16	0	1	23	8	0	ne.	C. M. Evans.
Mott	Hettinger	2,424	10	54.4	+3.1	87	17	28	26	47	0.79	−1.76	0.43	0	3	13	9	9	ne.	O. H. Opland.
Napoleon	Logan	1,955	25	50.6	−2.2	93	16	19	2	47	0.10	−2.36	0.10	0	1	20	4	7	s.	C. J. Hoof.
New England	Hettinger	2,400	23	51.6	+0.2	93	15	23	5	51	0.71	−1.54	0.20	0	5	11	11	9	se.	J. M. Connolly.
New Salem	Morton	2,163	12	50.0	−1.4	86	16	23	2†	46	0.62	−1.98	0.54	0	2	17	11	3	ne.	J. Christiansen.
Orange†‡	Adams	2,586	8	49.4		88	15	24	5	47	0.92		0.30	0	5	7	17	7	ne.	T. F. Young.
Oriska	Barnes	1,270	12	53.0	+0.4	89	16	29	1†	51	0.03	−3.16	0.02	0	2	22	8	1	ne.	J. J. Taylor.
Park River	Walsh	998	13	52.2[c]	0.0	91[c]	16	27[c]	30	46[c]	0.01	−2.37	0.01	0	1				ne.	O. J. Sieker.
Parshall	Mountrail		2								0.28		0.28	0	1					J. A. Johnson.
Pembina	Pembina	789	43	52.6	+0.2	91	16	29	2†	47	0.08	−2.55	0.08	0	1	21	9	1	nw.	C. W. Shumaker.
Power	Richland	1,020	25																	J. H. Radcliffe.
Powers Lake	Burke	2,205	2								T.		T.	0	0	18	7	6	nw.	C. Frank.
Sanish	Mountrail	2,200																		E. H. Senechal.
Searing	McKenzie																			T. C. Taylor.
Steele	Kidder	1,857	20	52.7	−1.2	90	16	26	1	40	0.04	−2.35	0.02	0	2	11	20	0	ne.	H. S. Wood.
Taylor	Stark	2,493	1	51.0		89	15	28	1†	45	0.53		0.29	0	5	18	7	6	e.	H. Leutz.
Towner	McHenry	1,482	15	51.3	−0.8	91	16	24	22	45	0.27	−2.52	0.27	0	1	19	9	3	ne.	B. Bagley.
Turtle Lake	McLean	1,899	5																	E. J. Jones.
Wahpeton	Richland	962	23	53.2	−2.6	88	16	30	2†	37	0.51	−2.29	0.40	0	3	23	4	4	n.	F. E. Smith.
Walhalla	Pembina	966	10	51.4	+1.3	92	16	25	23	45	T.	−2.85	T.	0	0	25	6	0	n.	Ivan Lee.
Washburn	McLean	1,734	18	53.4	−0.4	87	15†	27	1†	45	0.34	−2.08	0.34	0	2	15	8	8	nw.	J. T. McCulloch.
Watford	McKenzie			51.4[c]		90[c]	15	18[c]	20	44[c]	0.27		0.11	0	4					M. E. Johnson.
Westhope	Bottineau	1,508	11	51.2	−0.2	92	16	24	2	49	T.	−2.24	T.	0	0	20	9	2	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	52.0	−2.3	90	15	22	1	36	0.08	−2.18	0.07	T.	3	17	13	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	49.4	−2.5	92	16	23	2	45	0.10	−1.90	0.10	0	1	15	15	1	e.	M. A. Ostby.
Zap	Mercer	1,800	4					21	2		0.44		0.35	0	3	15	11	5	ne.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	53.6	−1.2	90	16	28	2	40	0.38	−2.57	0.21	T.	4	24	4	3	ne.	U. S. Weather Bureau.
Averages				51.2	−1.4	98	16	15	2	66	0.30	−2.25	1.10	0.1	2	20	7	4	ne.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for May, 1917.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red	.02																.15			.21											0.17
Ashley	Missouri																				.21									.20			0.41
Beach	Lit. Missouri		T.																T.		.04					.02			.10	.03	.31		0.50
Berthold Agency	Missouri																				T.	T.							T.	.10			0.10
Bierman	Lit. Missouri																				.53	.10				.20			.10	.05	1.10		2.08
Bismarck ***	Missouri			T.															T.		.01									.25			0.26
Bottineau ‖ ‖	Mouse																												.02				0.02
Bowbells ‖ ‖	Mouse																																0.00
Bowman	Grand		.02																			.14	.39				.46			.08	.11		1.20
Buford	Missouri		T.	T.																		T.						T.	T.		.01	.20	0.21
Cando	Sheyenne																													.61			0.61
Carson	Heart																				.60									.70			1.30
Colgate	Sheyenne	T.		T.	T.																T.								T.	T.			T.
Cooperstown	Sheyenne																																0.00
Crosby	Mouse		T.				T.																					.02	.11				0.13
Devils Lake ***	Sheyenne	T.					T.										T.																T.
Dickinson ‖ ‖	Heart	T.																			T.	.01				T.	T.		T.	.10	.05	.20	0.36
Donnybrook	Mouse																																0.00
Dunseith	Mouse																												T.	T.			T.
Eckman	Mouse	T.																											.01	.07			0.08
Edgeley	James																		.09											.09			0.18
Energy	Missouri						.45														.02									.41			0.88
Epping	Missouri																											T.				T.	T.
Fessenden ‖ ‖	James							T.										.03												.03	.02		0.08
Forman	Sheyenne	.10		T.	T.													.10												T.			0.20
Fullerton	James			.04															.45		T.												0.49
Garrison	Missouri																				T.									.54			0.54
Grafton ‖ ‖	Red	.15																											T.				0.15
Grand Forks	Red	.13					.10	T.																									0.23
Grand Rapids	James		T.	T.															.55											T.			0.55
Granville	Mouse																												.02	.15			0.17
Hannah	Pembina						.09																						T.				0.09
Hansboro	Red																																0.00
Hettinger	Grand		T.	.05																	.30	.08				.32	.01		T.	.14	.09	.11	1.10
Hillsboro	Red	.06																.12	T.														0.18
Howard	Missouri		.02		.01																							T.	T.	T.	T.	T.	0.03
Jamestown ‖ ‖	James				.10																												0.10
Lakota	Sheyenne	T.		T.																									T.	T.			T.
Lamoine	Missouri																													*	*	.27	0.27
Langdon ‖	Pembina	.11					.05																							T.	T.		0.16
Larimore ‖	Red	.20																															0.20
Lisbon ‖	Sheyenne	.20				T.												.35		.22						T.			T.			0.77
McHenry	James			T.	T.																									T.			T.
McKinney	Mouse	T.																															T.
McLeod	Sheyenne	T.			T.				T.									.15		.18	T.									T.			0.33
Maddock	Sheyenne																													T.			T.
Mandan ‖	Missouri				T.															T.		T.								.33	.02		0.35
Manfred	Sheyenne						T.										.06													.16			0.22
Manning	Knife																												.10		.14		0.24
Marmarth	Lit. Missouri		.03	T.				T.														.67			.03	.50	.01		.17	.15	*	.40	1.96
Marstonmoor	James			T.													T.				T.									T.			T.
Mayville	Red	.10																															0.10
Melville	James																												T.				T.
Milnor	Red																	.26	.10														0.36
Minot ‖	Mouse																												T.	.06			0.06
Minto	Red	.16					T.																										0.16
Mott	Cannon Ball																		T.		.33									.43			0.79
Napoleon ‖	Missouri																					.10											0.10
New England	Cannon Ball		.15																		.17	.07							.12		.20		0.71
New Salem	Heart																				.08									.54			0.62
Orange	Cannon Ball			.05																	.30	.12				.26				.19			0.92
Oriska	Sheyenne			.02																										.01			0.03
Park River	Red																													.01			0.01
Parshall	Missouri																												.28				0.28
Pembina ‖	Red	.08																															0.08
Power	Sheyenne																																0.00
Powers Lake	Missouri																														T.		T.
Sanish	Missouri																																0.00
Searing	Lit. Missouri																																0.00
Steele	Missouri																	T.			.02									.02			0.04
Taylor	Heart																		T.		.08	.03				T.			T.	.29	.06	.07	0.53
Towner	Mouse																													.27			0.27
Turtle Lake	Missouri																																0.00
Wahpeton ‖	Red	.09																.02	T.	.40													0.51
Walhalla	Pembina						T.																										T.
Washburn	Missouri																												.30	.04			0.34
Watford	Lit. Missouri																					.03							.11	.04		.09	0.27
Westhope	Mouse																												T.	T.			T.
Williston ***	Missouri		.01			T.	T.																					T.	T.		.05	.02	0.08
Willow City	Mouse						T.																							.10			0.10
Zap	Knife						.05														T.	.04							T.	.35			0.44
Moorhead, Minn ***	Red	.08			.02													.24	.04														0.38

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	50	58	56	60	65	67	75	70	65	69	69	71	77	80	83	88	81	87	62	59	66	66	66	74	75	62	70	73	71	64	65	69.2
	Minimum	33	28	34	29	29	34	30	38	35	31	36	34	36	39	37	48	48	45	47	32	40	31	31	34	36	42	30	33	42	38	35	36.0
Ashley	Maximum	49	53	44	54	64	62	74	68	70	67	74	67	71	76	83	86	78	85	67	59	64	64	70	72	68	61	66	69	67	60	59	66.8
	Minimum	25	23	36	27	27	27	34	33	40	34	34	34	33	35	50	53	42	43	39	39	40	35	32	28	40	35	29	42	44	37	42	35.9
Beach	Maximum	53	49	55	58	60	65	65	69	69	68	70	71	73	82	92	73	74	70	67	57	69	66	71	75	63	69	72	69	50	51	45	65.8
	Minimum	20	28	34	32	33	33	30	28	29	32	32	34	38	38	48	52	27	34	47	37	39	24	27	34	37	34	39	29	37	35	30	34.1
Berthold Agency	Maximum	59	59	54	57	67	71	..	72	74	75	75	76	75	80	91	87	76	77	67	60	70	70	76	80	71	67	75	77	62	55	52	[a]70.2
	Minimum	21	21	29	35	25	31	..	31	32	28	30	35	32	37	43	55	32	32	32	40	40	26	25	33	39	35	32	35	46	32	36	[a]33.3
Bismarck	Maximum	52	56	50	52	60	63	67	69	68	67	70	70	72	78	87	90	77	81	65	51	65	66	71	75	70	61	70	72	56	55	56	66.5
	Minimum	29	25	36	34	28	37	37	39	40	36	35	43	40	40	51	55	42	40	38	38	44	32	31	36	48	40	31	48	47	37	40	38.6
Bottineau §§	Maximum	52	59	56	56	58	64	68	72	68	69	70	69	74	89	87	91	73	75	60	61	65	67	72	73	68	59	70	68	58	56	60	67.3
	Minimum	25	24	24	32	31	30	40	40	39	37	42	42	42	43	47	54	33	34	34	34	39	37	34	37	44	31	29	33	39	32	37	36.1
Bowbells §§	Maximum	51	52	56	55	54	65	67	69	66	66	69	71	72	78	88	83	70	76	60	60	65	74	76	72	68	60	71	65	58	50	56	65.7
	Minimum	24	28	28	28	33	28	34	35	32	34	33	32	35	34	41	43	32	33	29	31	27	28	28	35	33	26	31	30	38	20	31	31.4
Carson	Maximum	52	52	45	50	55	60	65	66	65	66	67	60	68	77	86	85	75	80	56	50	62	68	66	70	60	66	68	65	50	50	50	63.4
	Minimum	26	28	33	32	30	34	35	40	34	32	32	40	38	40	59	52	36	50	36	38	39	28	31	39	46	37	28	44	45	35	35	37.2
Colgate	Maximum	53	60	59	62	67	68	65	72	75	71	70	71	78	85	86	97	87	80	73	63	74	77	75	74	74	70	73	75	74	71	69	72.5
	Minimum	31	28	31	36	30	36	30	34	34	31	35	35	32	34	36	50	44	50	35	36	40	28	28	34	34	39	24	38	30	35	29	33.9
Crosby	Maximum	60	61	60	58	58	68	80	72	76	78	72	70	72	76	86	78	64	68	66	60	62	72	76	72	66	62	67	70	55	58	66	68.0
	Minimum	34	32	36	37	40	40	45	40	40	42	40	44	46	43	51	58	36	43	36	39	35	34	45	42	42	32	36	35	39	30	43	39.8
Devils Lake	Maximum	48	56	55	55	61	64	68	68	63	66	68	68	74	79	86	91	75	79	58	58	64	63	67	71	73	58	66	67	53	58	59	65.8
	Minimum	27	30	34	32	32	40	35	38	33	34	36	35	42	46	52	56	43	44	33	32	34	30	28	31	38	24	27	44	39	28	35	36.2
Dickinson	Maximum	50	53	53	53	60	61	65	67	77	66	68	71	72	77	90	78	72	76	66	43	65	64	69	74	64	58	71	68	51	45	46	64.3
	Minimum	24	31	33	31	25	29	29	29	30	28	31	34	39	37	45	46	27	31	37	39	39	28	25	39	50	37	28	39	45	34	32	33.9
Donnybrook	Maximum	51	59	56	56	59	63	68	71	68	69	..	71	74	80	90	88	73	72	65	59	65	..	75	73	71	60	72	65	58	54	54	[b]66.9
	Minimum	21	27	31	33	31	28	32	38	30	32	..	29	32	40	47	58	32	37	29	32	28	25	31	31	31	27	30	29	43	22	37	[a]32.4
Dunseith	Maximum	48	57	54	54	56	64	67	68	65	67	69	67	70	76	85	90	77	72	62	58	63	62	67	69	68	55	68	67	59	52	57	64.9
	Minimum	27	26	25	32	30	35	42	38	36	35	42	40	38	38	50	54	41	37	33	32	39	35	31	37	47	31	25	35	..	29	34	[a]35.8
Edgeley	Maximum	52	55	48	56	62	66	68	71	68	66	69	68	72	79	85	90	80	86	66	60	65	67	67	73	73	68	68	72	67	61	60	68.0
	Minimum	27	25	35	27	27	32	30	38	39	30	34	30	35	39	37	45	40	40	38	37	43	28	32	33	36	41	26	39	39	38	33	34.6
Fessenden §§	Maximum	51	57	53	54	60	65	69	71	68	68	71	71	75	78	86	91	77	80	63	58	65	66	71	73	73	60	69	72	54	58	59	67.3
	Minimum	24	23	29	24	25	31	26	34	33	27	29	28	34	38	47	53	37	37	32	31	35	25	25	30	34	34	21	27	46	31	33	31.7
Forman	Maximum	48	60	56	60	66	67	69	69	71	68	73	72	76	79	84	90	81	89	66	62	65	64	66	75	73	69	..	72	69	64	63	[a]69.5
	Minimum	32	30	38	35	38	42	42	..	..	..	..	..	..	..	..	56	51	54	42	42	41	38	36	39	45	45	..	36	50	41	37	[a]41.5
Fullerton	Maximum	48	54	50	54	60	64	66	69	65	65	67	66	71	76	86	87	86	86	65	54	63	65	66	72	71	63	67	72	67	64	63	66.8
	Minimum	28	28	37	30	31	32	33	40	42	38	40	34	36	43	41	52	44	58	39	39	43	30	31	35	48	37	28	35	47	39	34	37.8
Garrison	Maximum	51	58	52	54	59	62	71	69	68	71	..	76	74	77	83	89	74	76	66	56	64	65	73	76	73	63	70	70	61	47	53	[a]66.7
	Minimum	22	23	30	32	34	28	29	35	32	31	..	36	34	37	42	54	33	37	33	34	37	30	28	33	36	34	27	36	41	31	28	[a]33.2
Grafton §§	Maximum	50	59	60	61	66	67	70	69	69	70	69	70	78	82	85	91	80	85	56	63	66	67	68	73	75	63	68	70	64	60	64	69.0
	Minimum	33	23	28	25	29	37	30	35	32	30	30	28	33	35	39	49	39	34	28	32	29	29	30	32	34	24	36	40	29	30	32	32.6
Grand Forks	Maximum	48	57	57	59	63	64	68	68	65	67	66	68	76	80	84	89	79	85	57	60	64	64	65	71	68	67	59	69	67	62	62	67.0
	Minimum	32	28	33	32	39	35	33	38	36	38	36	37	34	44	42	52	52	46	36	33	35	26	27	30	37	34	25	36	46	35	35	36.0
Granville	Maximum	52	60	55	58	60	65	68	72	70	70	73	72	75	78	80	78	75	75	65	60	68	68	74	74	75	64	72	72	58	54	58	67.4
	Minimum	28	30	25	30	28	30	34	37	32	32	34	32	34	38	45	42	38	40	30	34	34	30	30	28	35	42	30	30	38	33	35	33.5
Hannah	Maximum	52	53	56	57	59	60	65	65	67	68	67	68	75	77	86	93	96	78	56	61	65	63	65	72	68	67	68	62	57	56	60	66.5
	Minimum	25	28	30	29	33	30	31	33	33	33	32	31	34	42	51	50	51	41	28	26	30	28	30	31	41	33	26	40	39	21	31	33.6
Hansboro	Maximum	53	60	58	65	67	65	68	67	65	70	68	68	74	80	87	95	75	75	65	60	67	62	67	61	62	55	68	67	52	54	55	66.6
	Minimum	28	25	30	30	32	28	29	30	31	28	31	28	32	38	38	46	44	36	27	24	25	28	25	31	37	32	36	40	38	30	31	31.3
Hettinger	Maximum	54	52	48	50	57	63	64	70	71	68	70	70	71	78	91	84	74	80	67	62	60	64	67	71	54	58	68	67	54	38	43	64.1
	Minimum	21	31	32	31	23	26	32	26	26	29	30	30	36	42	40	49	56	33	37	40	37	37	29	29	39	48	38	29	41	45	36	32.8
Howard	Maximum	51	56	63	54	59	61	67	70	68	70	70	70	72	79	90	74	70	69	64	56	65	66	79	75	74	70	71	64	57	46	55	66.3
	Minimum	20	27	30	34	31	30	33	33	33	34	34	39	30	36	43	45	26	30	33	30	36	29	34	38	36	31	30	29	29	30	32	32.4
Jamestown §§	Maximum	49	57	52	55	60	64	69	71	66	68	69	72	75	80	85	91	81	85	66	56	64	66	67	73	72	62	70	70	63	61	62	67.8
	Minimum	26	24	31	30	28	32	29	28	27	33	34	33	34	35	46	53	43	46	37	34	38	32	30	32	36	40	30	36	46	36	35	35.0
Lakota	Maximum	47	57	57	54	62	65	68	69	68	72	68	67	73	78	84	90	75	82	75	57	63	63	65	71	70	58	64	68	57	58	60	66.6
	Minimum	29	24	29	25	29	29	38	35	32	35	31	30	32	36	42	52	40	46	31	27	32	32	26	30	30	29	24	36	42	29	30	32.6
Lamoine	Maximum	48	48	50	54	63	65	68	70	68	66	68	70	72	75	87	91	76	77	61	54	63	64	68	73	74	67	68	69	62	60	62	66.5
	Minimum	18	28	30	27	47	47	48	35	34	30	34	34	34	35	37	53	34	37	32	32	38	24	30	34	45	..	20	40	44	30	32	[a]34.8
Langdon	Maximum	48	57	59	57	63	66	68	56	69	68	68	68	75	79	86	91	72	77	52	61	63	64	64	70	65	56	64	66	53	55	57	65.1
	Minimum	26	26	29	29	33	37	36	36	36	39	36	32	38	42	45	54	40	43	30	27	31	30	29	25	40	30	26	27	40	21	32	33.7
Larimore §§	Maximum	47	57	57	60	67	67	70	70	65	66	67	68	74	80	84	89	79	85	57	63	64	64	65	70	73	60	68	70	61	59	60	67.3
	Minimum	33	28	30	28	30	38	36	40	36	33	35	36	37	40	46	48	50	45	36	29	30	28	30	34	40	36	30	38	40	33	32	35.6
Lisbon §§	Maximum	52	57	52	62	65	68	65	70	66	66	69	72	74	79	83	91	80	86	70	64	68	64	74	72	72	64	68	73	68	63	65	69.1
	Minimum	30	25	34	30	30	35	35	36	40	30	32	30	34	41	43	53	43	42	43	42	38	32	34	30	34	43	32	38	40	40	36	36.3
McHenry	Maximum	50	58	55	57	62	67	70	72	66	69	70	71	76	79	86	91	80	86	75	56	65	67	70	76	74	78	67	70	60	60	62	69.4
	Minimum	30	25	31	27	32	38	32	38	40	42	37	39	38	40	39	51	45	40	34	28	30	29	31	24	40	36	30	40	35	29	24	35.0
McKinney	Maximum	52	62	60	60	60	65	72	74	75	73	73	73	77	81	93	98	78	77	64	65	65	75	78	75	71	63	76	70	70	52	62	70.6
	Minimum	21	26	27	32	30	29	30	30	30	28	28	26	26	33	48	45	35	35	30	33	28	35	35	29	29	28	28	28	43	24	30	30.9
Maddock	Maximum	50	57	54	52	60	63	68	70	68	67	70	70	73	79	86	91	91	79	76	60	66	67	69	72	75	69	88	70	69	59	59	69.3
	Minimum	25	25	30	25	25	40	27	32	32	32	31	30	31	31	41	41	38	35	33	30	34	35	24	30	35	35	22	41	46	28	31	32.1
Marmarth	Maximum	49	44	52	54	56	61	58	62	66	66	65	65	66	77	88	70	70	68	66	55	60	62	65	70	52	55	66	64	53	45	41	61.0
	Minimum	28	28	31	30	25	28	30	25	32	33	32	31	36	40	42	42	26	43	42	36	36	30	33	37	44	37	30	37	41	29	29	33.6
Minot §§	Maximum	52	60	55	57	61	66	70	73	70	71	71	73	76	82	91	90	76	75	64	58	67	67	75	75	74	61	73	71	57	52	58	68.4
	Minimum	22	23	28	32	28	30	30	32	28	27	29	32	32	41	44	52	36	38	30	34	33	26	27	32	31	28	27	34	37	29	32	31.7
Mott	Maximum	46	38	41	47	56	63	71	73	64	66	70	77	72	78	82	84	87	78	67	55	46	62	60	68	77	75	78	77	76	62	70	66.6
	Minimum	35	32	34	35	40	40	41	44	42	47	53	51	50	54	60	60	63	60	50	38	32	34	36	40	33	28	34	34	36	34	35	42.3
Napoleon §§	Maximum	52	59	47	52	62	66	70	72	70	69	72	73	75	79	85	93	80	83	67	49	66	65	70	75	75	63	70	72	65	62	61	68.4
	Minimum	20	19	25	25	23	31	26	36	35	31	30	33	33	34	46	55	39	36	34	34	34	28	25	36	35	39	27	37	44	35	29	32.7
New England	Maximum	55	54	54	55	61	64	64	66	70	70	74	68	73	79	93	92	76	70	70	68	68	72	75	75	72	20	74	68	58	54	58	68.4
	Minimum	30	29	30	32	23	29	30	32	34	29	33	33	36	35	42	52	48	44	36	29	28	34	27	39	50	48	29	40	31	31	36	34.8
New Salem	Maximum	56	55	54	52	54	62	67	69	67	67	75	70	75	77	72	86	84	80	67	58	66	65	73	68	70	67	70	76	58	48	52	66.5
	Minimum	26	23	28	30	23	30	37	33	35	30	37	33	34	38	40	50	50	37	35	35	34	35	27	28	35	30	24	38	37	33	35	33.5
Orange	Maximum	51	50	44	49	58	62	67	64	68	65	67	70	71	77	88	85	76	80	69	63	62	64	68	72	66	59	68	69	59	52	50	64.9
	Minimum	26	28	32	31	24	25	25	32	27	28	27	36	40	36	48	52	29	35	38	37	39	25	25	33	47	38	26	43	46	38	34	33.9
Oriska	Maximum	50	57	57	56	67	69	69	70	70	70	71	72	76	81	85	89	82	88	86	59	62	60	66	71	74	68	70	69	67	62	63	69.5
	Minimum	29	34	33	32	33	33	34	35	35	33	33	30	59	46	45	45	48	47	35	40	40	30	30	32	37	29	30	39	41	33	33	36.5
Park River	Maximum	49	57	57	60	62	65	69	69	67	67	..	68	75	80	86	91	90	84	68	60	65	64	65	71	..	72	..	70	66	57	60	[c]68.4
	Minimum	32	29	35	30	30	35	35	39	37	33	..	31	38	46	55	45	48	45	38	28	32	34	32	32	..	34	..	29	43	27	36	[c]35.9
Pembina §§	Maximum	52	62	61	64	64	72	68	70	71	72	71	73	78	86	88	91	81	82	61	66	66	67	68	74	68	61	78	68	61	61	61	69.9
	Minimum	32	29	34	31	32	36	36	35	31	32	33	31	36	41	41	49	49	45	34	34	33	31	29	33	34	34	34	41	42	32	31	35.3
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	50	60	56	57	62	66	69	72	70	69	71	70	74	80	87	91	80	75	73	68	67	66	71	73	72	61	70	70	65	54	55	68.5
	Minimum	25	38	28	31	29	31	35	36	32	30	33	35	39	39	46	54	39	40	32	32	32	31	24	27	30	35	33	25	35	46	29	38	34.1
Turtle Lake	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton §§	Maximum	49	50	58	51	56	66	67	69	69	68	69	67	73	79	81	88	80	80	64	58	64	63	64	70	76	65	66	70	67	67	66	67.1
	Minimum	36	30	35	34	30	33	34	39	42	34	36	39	38	42	46	53	52	53	42	42	44	31	30	31	45	49	30	40	48	43	37	39.3
Watford	Maximum	52	55	53	..	61	62	65	68	..	69	71	72	74	80	90	81	74	74	68	62	69	65	72	76	..	75	71	73	58	53	46	[c]67.5
	Minimum	19	31	29	..	31	34	36	41	..	31	31	36	42	46	50	57	37	36	40	18	39	30	31	37	..	35	34	32	40	34	32	[c]35.3
Westhope	Maximum	51	61	58	50	49	68	72	75	70	70	69	78	80	83	91	92	74	75	60	66	67	69	78	80	70	59	69	69	59	60	62	68.8
	Minimum	26	24	27	29	30	32	35	36	32	32	32	29	35	36	44	48	36	36	30	31	33	27	36	36	37	28	31	32	41	39	38	33.5
Williston	Maximum	53	56	56	58	61	61	66	69	68	68	70	70	72	81	90	72	71	69	64	59	60	66	73	75	70	60	72	66	56	43	51	65.5
	Minimum	22	29	32	38	37	34	42	39	38	35	36	45	39	46	54	45	38	38	42	40	43	33	39	42	48	37	40	35	38	45	35	38.5
Willow City	Maximum	51	57	54	55	57	63	66	70	66	68	70	70	74	79	88	92	73	73	63	60	65	63	69	74	69	57	67	67	55	54	56	66.0
	Minimum	26	23	26	30	27	32	35	36	32	32	33	32	37	35	43	52	34	35	32	31	33	31	26	31	34	32	24	33	44	30	36	32.8
Zap	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	22	21	30	30	23	33	28	30	32	24	29	30	37	36	47	54	29	32	36	37	39	25	24	32	41	36	24	39	45	33	35	32.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JULY 28, 1917.

Departure of the Mean Temperature from the Normal, June, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., JUNE, 1917. No. 6.

GENERAL SUMMARY.

The weather during June was unseasonably dry and cool over the greater portion of the State. There have been but three cooler Junes (1902, 1915 and 1916) and but four drier Junes (1900, 1903, 1910 and 1912) in the climatological history of the Section. Practically all stations produced deficiencies in both temperature and precipitation, the departures in the Missouri River Valley being the most noticeable. Better conditions prevailed in the eastern than in any other part of the State. Small grains of all kinds made fair progress, but at the close of the month showed a tendency to head short in many localities. Corn was very backward, although good in both stand and color. Pastures were badly in need of rain, and the indications were for a light hay crop.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.91 inches. The highest was 30.49 inches at Bismarck, Burleigh County, on the 14th; the lowest was 29.27 inches at Bismarck, Burleigh County, on the 10th.

TEMPERATURE.

The mean temperature for the State was 59.7°, or 3.1° below the normal, and 1.7° higher than the mean for June, 1916. The highest mean reported was 64.0° at Melville, Foster County; the lowest was 56.2° at Cando, Towner County, and Hannah, Cavalier County. The highest temperature reported was 103° at McKinney, Renville County, on the 9th; the lowest was 19° at Watford, McKenzie County, on the 21st. The greatest monthly range of temperature was 80° at McKinney, Renville County; the least was 55° at Bismarck, Burleigh County The greatest daily range was 56° at New England, Hettinger County, on the 29th. Usually the highest temperature occurred on the 9th or 17th, and the lowest on the 1st or 21st.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 62 per cent, the average at 7 a. m. being 77 per cent, and at 7 p. m. 47 per cent.

PRECIPITATION.

The average precipitation for the State was 2.09 inches, or 1.41 inches below the normal, and 1.80 inches less than the average for June, 1916. The greatest monthly amount reported was 6.20 inches at Grand Rapids, La Moure County; the least was 0.80 inch at Washburn, McLean County. The greatest amount recorded in any twenty-four consecutive hours was 5.15 inches at Grand Rapids, La Moure County, on the 6th. No snowfall was reported. The average number of days with 0.01 inch or more of precipitation was 8. The precipitation was fairly well distributed, both geographically and throughout the month. Particularly stormy periods were from the 3d to the 11th, and from the 20th to the 25th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 10.5 miles. The greatest wind movement was 8,290 miles at Bismarck, an average of 11.5 miles per hour; the least was 6,124 miles at Moorhead, Minn., an average of 8.5 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 51 miles per hour from the northeast at Grand Forks, Grand Forks County, on the 16th.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 13, partly cloudy days 11, and cloudy days 6.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	60.5	−2.3	94	28	3.55	+0.05	10	8	11	9	nw.
1893...	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894...	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895...	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896...	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897...	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898...	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899...	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900...	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901...	61.6	−1.2	95	22	6.16	+2.66	15	10	11	9	nw.
1902...	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw.
1903...	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904...	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905...	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906...	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907...	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908...	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909...	62.9	+0.1	98	28	2.21	−1.29	10	12	11	7	e.
1910...	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911...	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912...	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913...	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914...	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915...	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916...	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917...	59.7	−3.1	103	19	2.09	1.41	8	13	11	6	nw.

Climatological Data for June, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	60.1	−4.0	93	17	26	11	46	2.18	−1.65	1.00	0	7	21	7	2	s.	E. T. Carley.
Ashley	McIntosh	2,001	20	60.6	−1.4	93	17	34	1†	41	1.55	−2.00	0.61	0	5	23	3	4	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	57.0	−4.5	92	9	27	1	50	1.43	−2.90	0.50	0	8	9	20	1	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	60.3	−3.0	97	29	29	21	52	1.56	−2.56	0.65	0	8	20	7	3	nw.	C. L. Hall.
Bierman	Slope	.....	1	58.6	.....	89	28	32	1	42	2.44	.....	1.10	0	7	11	10	9	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	61.9	−2.3	93	17	38	21	39	2.15	−1.39	0.85	0	11	10	15	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	59.0	+0.9	97	9	25	1	49	1.91	−1.50	0.60	0	14	11	4	15	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	58.9	.....	90	9†	27	1	46	1.76	.....	0.63	0	10	15	3	12	.....	G. H. Phelps.
Bowman	Bowman	.....	3	61.2	.....	97	24	26	1	49	1.41	.....	0.80	0	6	19	0	11	.....	L. S. Diehl.
Buford	Williams	1,944	38	58.3[k]	−6.0	92[l]	9	30[i]	1	43[l]	2.00	−0.81	0.96	0	5	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	16	56.2[b]	−5.4	99[b]	17	26[c]	1	52[c]	2.99	−0.83	0.75	0	9	.....	.....	.....	....	E. T. Judd.
Carson	Grant	2,500	5	58.5	.....	94	29	31	1	49	1.85	.....	0.70	0	10	14	14	2	w.	J. W. Evens.
Colgate	Steele	1,177	3	62.0	.....	100	17	24	1	54	1.90	.....	0.50	0	10	11	14	5	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	2.15	−1.68	0.80	0	5	19	8	3	ne.	S. Friswold.
Crosby	Divide	1,954	10	59.8	−0.9	90	9	30	21	38	2.14	−1.18	0.65	0	9	14	4	12	w.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	59.2	−3.4	94	17	31	4	41	1.69	−1.84	0.53	0	16	12	7	11	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	59.1	−2.5	94	29	28	1	44	2.54	−0.33	0.94	0	11	17	5	8	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	18	59.4	−2.1	96	9	26	21	47	1.41	−1.41	0.37	0	12	10	17	3	nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	59.0	−2.6	92	9	26	1	52	3.61	+0.59	1.60	0	13	14	4	12	nw.	J. G. Lamont.
Eckman	Bottineau	.....	12	59.4	−1.9	97	9	23	4	55	2.67	−0.29	0.78	0	9	10	13	7	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	60.8	−2.0	95	17	32	21	41	2.90	−0.53	1.01	0	7	4	20	6	nw.	O. A. Thompson.
Energy ††	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	0.92	.....	0.30	0	6	6	16	8	s.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	1.84	.....	0.95	0	7	14	13	3	e.	M. E. Uggen.
Fessenden	Wells	1,610	5	57.9	.....	93	17	29	1†	46	2.97	.....	0.98	0	11	15	7	8	nw.	G. T. Seymour.
Formau	Sargent	1,249	25	63.4[b]	−2.2	94[b]	17	36[b]	1	38	2.09	−1.28	1.40	0	7	17	6	7	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	61.4	−1.6	93	17	37	15†	41	2.55	−0.58	0.86	0	5	16	11	3	nw.	F. O. Alin.
Garrison	McLean	1,901	22	60.0	−2.8	95	29	29	1	42	1.09	−2.26	0.30	0	7	12	14	4	nw.	G. L. Robinson.
Grafton	Walsh	827	25	58.2	−5.1	91	9	25	1†	51	1.82	−1.53	0.75	0	12	20	1	9	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	59.4	−4.0	90	17	28	1	42	1.95	−1.58	0.84	0	10	19	7	4	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	60.3	.....	95	17	31	1	45	6.20	.....	5.15	0	5	19	6	5	nw.	G. H. Leick.
Granville	McHenry	1,504	10	61.1	−2.0	95	9	28	1	46	1.16	−1.94	0.46	0	6	5	18	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	56.2	−3.0	93	17	26	3	48	2.77	−0.55	1.64	0	8	9	17	4	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	61.4	.....	100	9	30	1†	52	2.70	.....	0.70	0	10	14	10	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	61.0	−1.2	98	29	29	1	45	1.72	−1.97	0.97	0	5	22	4	4	nw.	A. J. Ogaard.
Hillsboro	Traill	901	11	59.8	−4.6	90	17	30	1	44	2.04	−1.63	0.82	0	9	16	12	2	nw.	F. E. Mayall.
Howard	Williams	2,275	10	57.6	−2.3	90	9	28	21	47	1.75	−1.24	0.77	0	5	6	15	9	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	25	60.2	−3.4	96	17	33	1†	51	1.30	−2.46	0.75	0	6	14	7	9	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	57.4[d]	−3.5	93[d]	17	25[d]	1	48[d]	1.87	−1.69	1.27	0	6	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. V. Virgin.
Langdon	Cavalier	1,615	21	57.0	−2.8	92	9†	28	3†	46	2.67	−1.12	1.15	0	11	21	3	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	58.4	−4.2	90	9†	26	1	47	3.45	0.00	1.10	0	11	16	6	8	nw.	G. G. Graham.
Lisbon	Ransom	1,091	13	59.6	−3.5	93	17	26	1	50	2.46	−2.16	1.38	0	4	21	3	6	nw.	W. S. Adams.
McHenry	Foster	1,509	7	57.2	.....	94	17	27	2	47	3.32	.....	1.05	0	10	18	10	2	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	60.3[l]	−0.6	103[l]	9	23	4	50[l]	1.30	−2.16	0.50	0	5	.....	.....	.....	.....	N. P. Swenson.
McLeod	Ransom	1,075	5	63.0[b]	.....	94[c]	17	32	1	42[c]	2.37	.....	1.25	0	5	16	6	8	nw.	R. D. Markland.
Maddock	Benson	.....	2	59.4	.....	93	17	24	1	48	1.85	.....	0.68	0	11	5	17	8	sw.	F. P. Cowing.
Mandan	Morton	1,644	3	61.8	.....	93	17	36	21	39	2.56	.....	0.90	0	11	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	56.2	−5.7	91	9	29	1	41	2.74	−0.96	0.80	0	12	6	20	4	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	2.68	.....	1.44	0	4	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	56.6	.....	88	29	26	1	43	2.55	.....	1.63	0	9	9	15	6	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	58.5[l]	.....	94[a]	17	28[b]	21	55[b]	2.15	.....	1.00	0	7	.....	.....	.....	nw.	H. H. McCumber.
Mayville	Traill	975	21	60.4	−4.9	93	17	26	1	45	2.03	−0..8	0.37	0	10	20	3	7	nw.	W. C. Gould.
Melville	Foster	1,590	19	64.0[b]	+0.9	92[c]	17	29[k]	21	49[k]	2.27	−1.15	0.93	0	7	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	2.07	.....	1.14	0	4	15	10	5	nw.	Hj. Edman.
Minot	Ward	1,557	21	59.0	−4.3	96	9	26	1	48	0.97	−2.27	0.21	0	7	7	14	9	nw.	W. I. Faris.
Minto	Walsh	820	24	60.0	−3.9	91	10	27	4	46	2.62	−0.72	1.95	0	7	12	9	9	se.	C. M. Evans.
Mott	Hettinger	2,424	10	61.2	−1.9	95	17†	31	21	41	1.97	−1.79	0.83	0	5	12	11	7	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	59.6	−5.8	95	17	32	21	46	1.81	−1.97	0.67	0	11	13	9	8	nw.	C. J. Hoof.
New England	Hettinger	2,400	23	60.4	−2.0	98	29	32	14	56	1.64	−0.87	0.44	0	7	10	17	3	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	60.9	−2.1	96	17	30	21	45	1.47	−2.78	0.71	0	7	18	9	3	nw.	J. Christiansen.
Orange ††	Adams	2,586	8	60.2	.....	96	29	23	1	44	1.71	.....	0.76	0	4	3	13	14	nw.	T. F. Young.
Oriska	Barnes	1,270	12	.....	.....	.....	.....	.....	.....	.....	2.55	−0.79	1.00	0	8	.....	.....	.....	.....	J. J. Taylor.
Park River	Walsh	998	13	60.2	−3.0	96	10	30[a]	3†	45[a]	1.87	−1.75	0.34	0	10	15	11	4	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	2.34	.....	1.03	0	6	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	43	60.1	−2.6	88	16	32	4	40	3.56	−0.09	1.20	0	10	6	16	8	sw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	1.98	.....	1.10	0	12	15	10	5	nw.	C. Frank.
Sanish	Mountrail	2,200	.....	61.3	.....	97	29	22	2	52	2.34	.....	0.65	0	8	.....	.....	.....	nw.	E. H. Senechal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.96	.....	0.74	0	5	20	1	9	nw.	T. C. Taylor.
Steele	Kidder	1,857	20	59.2	−3.5	98	17	35	2	42	1.94	−1.39	0.86	0	10	5	25	0	w.	H. S. Wood.
Taylor	Stark	2,493	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Leutz.
Towner	McHenry	1,482	15	61.0	−1.2	96	9	25	4	47	0.98	−2.70	0.27	0	6	13	10	7	nw.	B. Bagley.
Wahpeton	Richland	962	23	61.2	−4.4	95	17	32	1†	43	1.03	−2.88	0.41	0	7	18	8	4	nw.	F. E. Smith.
Walhalla	Pembina	966	10	61.2[b]	−0.7	95[b]	9†	25[a]	3	49	2.26	−0.97	0.84	0	11	9	18	3	w.	Ivan Lee.
Washburn	McLean	1,734	18	60.8	−3.6	93	17	32	4	43	0.80	−2.91	0.37	0	5	6	11	13	w.	J. T. McCulloch.
Watford	McKenzie	.....	.....	58.8	.....	94	10	19	21	55	1.46	.....	0.58	0	6	.....	.....	.....	sw.	M. E. Johnson.
Westhope	Bottineau	1,508	11	59.8	−2.0	97	9	28	21	44	1.40	−1.72	0.48	0	8	5	21	4	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	60.4	−3.1	91	9	33	1	38	2.36	−1.21	0.74	0	14	9	18	3	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	58.0	−3.8	96	9	23	1	50	1.01	−2.52	0.34	0	8	7	20	3	e.	M. A. Ostby.
Zap	Mercer	1,800	4	58.5	.....	95	29	25	1	51	2.05	.....	0.96	0	10	11	12	7	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	61.3	−3.0	95	17	34	1	42	1.52	−2.61	0.96	0	10	21	2	7	s.	U. S. Weather Bureau.
Averages		.....	.....	59.7	−3.1	103	9	19	21	56	2.09	−1.41	5.15	0	8	13	11	6	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for June, 1917.

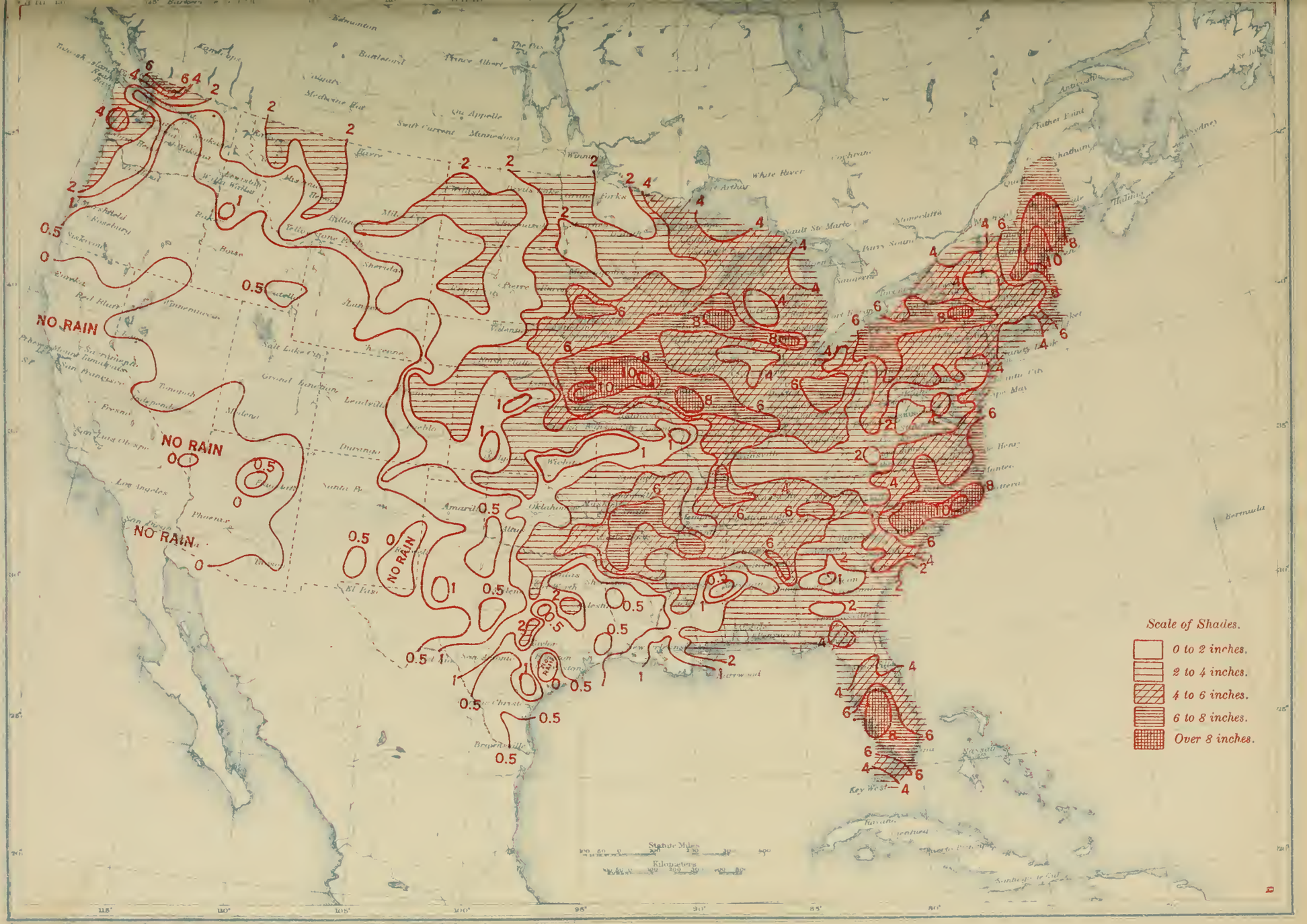
Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red						.55	T.				.08	1.00		T.					T.	.02			T.	.12	.18			.23				2.18
Ashley	Missouri					.61	.08	.14				.41											.31										1.55
Beach	Lit. Missouri		.36	.06		T.					.18	.01	T.						T.	T.	T.	.20		.50	.07	.05							1.43
Berthold Agency	Missouri		.15			.65	.15		.04		.10		T.							T.		.32	T.	.10	.05							1.56
Bierman	Lit. Missouri		.11	.22	.11	1.10		T.			T.	T.									.20	.40						.30				2.44
Bismarck ***	Missouri			.10		.85	.01	T.	T.		.65	.01					T.	.01		T.		.06	.02	T	.15	.01			.23			2.15
Bottineau ‖ ‖	Mouse			T.	.02			.03				T.	.08	.02	.07				.03	T.	.06		.60	.37	.24	.15	.04	.01	T.		.19		1.91
Bowbells ‖ ‖	Mouse			.17					.03		.15	.20	.04	.05						.10	.06		.63			.33							1.76
Bowman	Grand			.10	.21	.22	.06	.02															.80										1.41
Buford	Missouri		T.	.96		.18		T.		.10	.15	T.	T.							T.		.61							T.	T.			2.00
Cando	Sheyenne			.22			.24					.75		.05							.23				.52			.24		.04	.70		2.99
Carson	Heart			.05		.70	.04	.01				.04					.01						.50	.10		.33	.07						1.85
Colgate	Sheyenne			T.		.02	.50	.19			T.	.47		.02				T.	.01		.08		T.	T.	T.	.16		.32	.13	T.			1.90
Cooperstown	Sheyenne						.80					.75								.10						.35		.15					2.15
Crosby	Mouse	T.		.44		T.		.13		.28	.12	T.	.10								T.	T.	.65	.16		.20				.06			2.14
Devils Lake ***	Sheyenne		T.	.09		.13	.13		.01		.35	.18	T.	.07						.22		.05	.01	.14	.03	.04		.14		.08	.02		1.69
Dickinson ‖ ‖	Heart			.35		.94	.11		.02		.01		T.	T.						T.		.28		.43	.09	.11		.08	.12				2.54
Donnybrook	Mouse			.10			.05					.31	.05		T.					.04	.08	.05		.37	.13		T.		.03		.02	.18		1.41
Dunseith	Mouse			.08			.00		.15			.01	.06	.11								.10		.31	.94		.12	.03	.04		1.60		3.61
Eckman	Mouse			.17								.78	.03	.01						T.				.50	.52	.02	.62				T.	.02		2.67
Edgeley	James					.50	.37		.48			.37														.13			1.01		.04			2.90
Energy	Missouri		T			.30	.15				T.						T.				.11		.28	.04		.04			T.				0.92
Epping	Missouri			.20		T.							T.								.03			.95	.05	T.					.22	.04		1.84
Fessenden ‖ ‖	James			T.	.16		.37	.28		T.		.69		T.	T.					T.	.04	T		.12	.02	.04	.09			.18		.98		2.97
Forman	Sheyenne					.10	1.40					.30										.10		.05		.05			.09					2.09
Fullerton	James					.36	.86		T.			.36										.24							.74					2.55
Garrison	Missouri			.08		.16	.17	.13												T.	T.	.03		.30	T.	.22								1.09
Grafton ‖ ‖	Red		.01				.01	.10					.75	.07						.21	.40	.02		.02		.05	.16					.02		1.82
Grand Forks	Red		T.	.01	T.	T.	.06		.05		T.	.84		T.				.01	.40		T.		.04	.32		.06					.16		1.95
Grand Rapids	James					.60	5.15					.30														.10		.05		T.			6.20
Granville	Mouse			T.		T.	T.				.46		T.	.04		T.			T.	T.	.26		.21	.04						T.	.15		1.16
Hannah	Pembina						.05				1.64		.06			T.			.14				.11	.16	T.	.10				.51	T		2.77
Hansboro	Red										.20	.50	.14						.10				.18	.38		.25		.15		.70	.10		2.70
Hettinger	Grand			.11	.07	.97																.06	.51										1.72
Hillsboro	Red						.22		.17			.82		.03					.12					T.		.13		.20	.17		.18		2.04
Howard	Missouri	T.	T.	.77		T.	T.	T.		T.	.34	.17	T.					T.	T.	.01	T.	.45	T.	T.	T.				.01	T.			1.75
Jamestown ‖ ‖	James						.75	.18			T.	.09	.23								T.					T.		.03			.02		1.30
Lakota	Sheyenne			.15		T.						1.27	T.					.05	.10		T.		T.	.26				.04			T.		1.77
Lamoine	Missouri																																
Langdon ‖ ‖	Pembina						.12					1.15	.35	T.	.10				.14		.07		.21	.20		.04		.04		.25		2.67
Larimore ‖ ‖	Red				0.05		T.	.25				.56	1.10						.16	.46	.10		.10	.10	.20					.37		3.45
Lisbon ‖ ‖	Sheyenne					1.38	.10					.05	.44								.15				.02	T.			.32				2.46
McHenry	James			T.		.45	.30					1.05		.20				.25	T.		.02		.08	.12				.45		.40			3.32
McKinney	Mouse			T.	T.	T.					.20												.50	.15	.27					T.	.18		1.39
McLeod	Sheyenne					.12	1.25					.87		T.							.10							.03		T.			2.37
Maddock	Sheyenne			.09			.43		.07			.68								.11		.09		.10	.10	.01	.10		.07					1.85
Mandan ‖ ‖	Missouri			.15			.82	.02	.04	T.	.02	.41								T.		.02		.08	T.	.01	.09		T.			.90		2.56
Manfred	Sheyenne		T.	.07		.13	.41		.08		.02	.80	.02	T.						T.		.08		T.	.33		.15		.15			.50		2.74
Manning	Knife				.19	1.44																	.70	.35									2.68
Marmarth	Lit. Missouri			.19	*	1.63	.13	T.			.06	.03	T.					T.		T.		T.	.47		T.		.03	.01					2.55
Marstonmoor	James			T.		.50		T.		T.	1.00		T.			T.	T.	T.		T.		.05	.18	.02	.29		T.			.11			2.15
Mayville	Red						.37		.06			.60		.02						.01			T.	.01		.28	T.	.16	.24		.28		2.03
Melville	James						.63					.93						10	T.		.18		.14		T.				.17	.12			2.27
Milnor	Red					.07	1.14					.48													T.			.38		T.			2.07
Minot ‖ ‖	Mouse			.15			.18		T.			.21							T.	.01	.18		.16		.08	T.							0.97
Minto	Red		T.	.01			.10		T.			1.95						.10	.35					.04			.07			T.		2.62
Mott	Cannon Ball			.22		.81	.02		.09														.83										1.97
Napoleon ‖ ‖	Missouri						.33	.17			.02	.67	.03							.05			.10	.22		.15		.05			.02		1.81
New England	Cannon Ball			.19		.40	.02														.23		.44		.31			.05					1.64
New Salem	Heart			.17		.71	.05	T.	T.		.05	.09								T.			.27		.13					T.	T.		1.47
Orange	Cannon Ball					.76											.14					.63	.18										1.71
Oriska	Sheyenne					.55	T.				.10	1.00								.05	.10				.30	.30			.15				2.55
Park River	Red		T.	T.			.07		T.		.22	.34	T.	T.				.22	.23		.06		.06	.27		.19		.21		T.			1.87
Parshall	Missouri				.20						.51										.09	.25	.26		1.03								2.34
Pembina ‖ ‖	Red									.02		1.10	1.20	.08	.06				.04	.42			.22		.32				T.		.10		3.56
Power	Sheyenne																																
Powers Lake	Missouri			.25		.02	.04	.03	.12	.03	.05	.02	T.						.02	.10			1.10								.20		1.98
Sanish	Missouri			.10		.40	.25	.25			.15										.45				.65						.09		2.34
Searing	Lit. Missouri		.74		.38	.20																.39			.30								1.96
Steele	Missouri			.03		.30	.30				*	.86						.02			.08		T.	.13	.18				T.	.04			1.94
Taylor	Heart																																
Towner	Mouse			T.			.19					.06	T.	.12					T.	.16			.18	.27						T.			0.98
Wahpeton ‖ ‖	Red			T.			.10	.08				.07	.41		T.						.09					.08			.20				1.03
Walhalla	Pembina		T.			T.						.84		T.	.05				.25				.10	.25	.20	.05	.05	.07		.28	.12		2.26
Washburn	Missouri					*	.37				.20												.01		.22								0.80
Watford	Lit. Missouri			.17		.58	.13				.17			.04									.37										1.46
Westhope	Mouse											.12	.03						.09		.09		.29	.48		.27		.03		T.			1.40
Williston ***	Missouri		.23	.11		.11	.09	.17		.08	.11	.01	.01						.01	.02		.65	T.		.74					.02	T.		2.36
Willow City	Mouse			.05			.03					T.	T.	.06					T.		.01		.34	.30		.18					.01		1.01
Zap	Knife			.08		.96	.22		.03											.05	.01	.21	.14		.18			.17			T.		2.05
Moorhead, Minn ***	Red					.02	.12					.96		.04					T.		.02			.21	.03	.01		.07	.04				1.52

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	70	67	61	70	65	60	76	77	84	84	72	66	59	65	72	88	93	71	76	76	69	78	82	77	83	79	74	80	81	87	....	74.7
	Minimum...	30	34	39	36	39	45	44	42	44	56	66	44	38	39	33	45	50	55	44	50	33	48	51	45	57	50	49	53	48	58	....	45.5
Ashley	Maximum...	65	75	66	66	62	52	72	75	85	83	77	61	65	67	75	85	93	79	78	69	65	72	78	75	80	77	85	82	85	83	....	74.4
	Minimum...	34	39	42	38	43	44	48	47	50	58	55	41	39	38	34	48	60	55	45	55	35	40	50	48	55	45	50	51	54	59	....	46.7
Beach	Maximum...	69	74	66	63	55	57	57	60	92	73	56	58	65	71	82	87	80	85	84	66	75	72	72	73	72	80	74	75	90	75	....	71.9
	Minimum...	27	37	39	35	45	42	40	45	42	50	43	38	44	31	41	47	50	43	40	46	35	45	45	48	48	45	38	46	43	44	....	42.0
Berthold Agency	Maximum...	73	69	66	69	57	64	79	77	94	89	64	65	66	74	85	92	93	78	85	65	75	77	76	83	77	82	86	88	97	78	....	77.4
	Minimum...	24	36	41	30	44	44	41	53	42	56	50	43	40	36	40	41	47	53	41	45	29	48	40	39	48	41	52	42	57	52	....	43.2
Bismarck	Maximum...	68	72	61	67	54	57	74	76	90	89	66	60	64	70	80	90	93	75	79	64	69	78	78	79	78	77	85	82	87	80	....	74.7
	Minimum...	42	42	47	38	45	45	50	53	51	61	48	45	48	47	45	62	56	56	47	47	38	53	47	45	58	47	58	54	60	60	....	49.1
Bottineau §§	Maximum...	73	63	58	69	65	64	79	80	97	92	71	59	51	70	85	91	94	77	80	61	67	67	73	75	73	79	83	80	86	76	....	74.6
	Minimum...	25	38	38	33	44	48	45	47	49	58	52	41	38	28	40	43	45	50	43	49	28	43	45	41	48	43	50	44	53	51	....	43.3
Bowbells §§	Maximum...	73	63	59	65	66	67	80	78	90	89	62	54	56	70	85	89	90	75	79	79	67	75	74	77	68	77	79	80	89	80	....	74.5
	Minimum...	27	32	38	29	39	43	40	48	47	67	47	38	36	32	39	48	55	49	40	47	30	43	43	42	47	42	49	44	52	53	....	42.9
Carson	Maximum...	65	70	60	60	55	60	75	75	80	90	65	60	50	70	80	88	94	°75	80	65	68	65	79	78	65	72	80	82	94	80	....	72.5
	Minimum...	31	37	40	32	45	40	45	52	40	60	45	36	34	58	42	48	45	50	44	45	35	50	44	50	52	42	44	45	60	65	....	44.5
Colgate	Maximum...	73	73	77	74	72	65	77	82	87	93	83	87	65	76	80	93	100	82	80	75	71	85	84	85	86	84	87	84	86	86	....	81.1
	Minimum...	24	36	31	28	35	45	41	43	46	56	58	43	37	40	30	49	46	48	40	47	30	46	46	40	55	48	46	50	43	56	....	42.8
Crosby	Maximum...	65	62	56	68	56	74	72	80	90	80	65	60	58	68	80	88	82	82	76	60	68	72	70	77	72	80	72	78	82	72	....	72.2
	Minimum...	45	42	40	37	44	48	43	48	52	65	50	40	40	40	45	57	58	56	50	48	30	48	47	45	54	45	50	48	55	52	....	47.4
Devils Lake	Maximum...	67	63	52	68	67	60	75	76	92	86	67	59	48	65	79	88	94	67	73	63	63	65	75	76	78	77	81	76	83	80	....	72.1
	Minimum...	34	41	35	31	39	46	44	50	55	60	50	45	42	34	44	54	53	50	45	40	35	46	47	49	54	49	55	53	50	57	....	46.2
Dickinson	Maximum...	68	73	63	55	54	60	75	73	92	84	56	57	66	70	83	89	91	73	81	64	73	73	72	80	74	77	81	82	94	76	....	73.6
	Minimum...	28	37	44	35	46	42	39	48	50	56	48	40	40	40	41	45	48	49	45	50	34	49	45	44	48	40	50	45	64	49	....	44.6
Donnybrook	Maximum...	74	71	60	65	63	66	80	77	96	86	76	57	55	70	85	89	91	77	79	64	68	75	75	78	75	78	81	82	94	85	....	75.7
	Minimum...	30	38	38	27	37	44	41	50	57	52	49	40	37	33	42	42	53	49	39	47	26	46	43	40	51	43	54	42	51	48	....	43.0
Dunseith	Maximum...	78	68	56	66	66	62	75	75	92	90	71	67	53	66	81	89	91	85	75	76	70	63	71	73	72	74	79	83	85	86	....	74.6
	Minimum...	26	39	37	33	45	45	49	45	47	50	54	41	39	34	37	43	45	51	44	50	28	44	45	41	46	46	50	47	52	52	....	43.5
Edgeley	Maximum...	68	76	66	68	65	51	72	73	84	85	77	65	61	66	75	88	95	90	78	74	67	69	81	79	82	78	82	79	81	82	....	75.2
	Minimum...	39	41	38	36	42	47	48	56	49	57	59	44	41	39	34	50	60	49	44	53	32	49	46	43	43	48	50	50	47	57	....	46.4
Fessenden §§	Maximum...	68	65	51	68	67	55	74	71	90	89	67	59	52	67	78	89	93	71	78	63	66	72	77	77	79	80	84	81	88	76	....	73.2
	Minimum...	29	39	36	30	35	42	42	44	48	55	54	43	34	32	35	49	47	50	40	47	29	42	45	42	52	45	47	45	46	53	....	42.6
Forman	Maximum...	69	74	70	70	69	54	72	75	82	89	79	70	62	66	74	87	94	89	79	79	71	70	..	..	83	81	78	81	83	87	....	[b]76.3
	Minimum...	36	41	43	43	45	45	48	50	52	63	62	47	44	41	41	52	56	60	50	64	41	52	..	..	51	53	57	57	55	65	....	[b]50.5
Fullerton	Maximum...	68	76	66	67	54	51	73	73	83	84	75	72	62	66	75	87	93	78	68	75	81	80	76	79	80	79	78	79	81	84	....	74.8
	Minimum...	38	39	41	41	40	48	49	50	52	59	53	47	48	39	37	47	52	54	45	37	55	50	52	55	53	49	50	53	51	58	....	48.1
Garrison	Maximum...	69	65	59	68	63	66	76	82	90	94	80	58	65	70	82	89	93	75	81	61	69	77	79	76	76	78	82	85	95	79	....	76.1
	Minimum...	29	36	39	30	46	44	47	54	56	51	46	42	40	33	45	50	51	50	39	48	30	47	41	44	42	43	42	44	53	52	....	44.0
Grafton §§	Maximum...	70	65	54	70	68	72	78	84	91	90	71	63	52	65	75	89	87	65	71	69	65	65	73	74	78	76	75	78	83	82	....	73.3
	Minimum...	25	43	28	25	29	45	39	45	40	52	60	45	40	40	32	48	47	51	45	50	33	43	47	45	53	51	49	47	40	55	....	43.1
Grand Forks	Maximum...	70	65	51	69	69	68	78	76	86	88	71	62	54	63	78	89	90	74	71	72	64	63	74	73	80	77	73	77	83	82	....	72.9
	Minimum...	28	44	32	32	41	46	40	44	45	56	62	47	42	40	34	49	55	51	47	44	34	49	50	46	56	52	50	52	46	60	....	45.8
Granville	Maximum...	74	65	60	68	64	60	78	79	95	93	78	60	55	70	84	90	94	89	80	63	69	78	70	78	78	80	86	84	92	80	....	76.5
	Minimum...	28	42	40	28	40	45	50	54	55	60	50	42	40	35	42	50	48	52	43	43	33	48	45	45	55	47	54	46	58	52	....	45.7
Hannah	Maximum...	65	58	57	68	67	70	76	75	94	82	79	65	51	61	78	82	93	73	75	59	69	70	71	75	72	75	76	79	83	80	....	72.8
	Minimum...	31	28	26	33	34	37	42	44	50	61	52	40	33	29	30	44	49	47	46	38	27	40	42	41	44	43	48	50	51	53	....	41.5
Hansboro	Maximum...	61	75	74	78	71	78	78	79	100	98	98	73	59	67	83	90	98	72	77	68	67	62	72	76	76	77	82	78	85	77	....	77.3
	Minimum...	30	40	43	48	40	58	58	63	65	64	60	34	27	31	35	49	46	50	39	37	30	44	41	45	41	46	48	48	46	55	....	45.4
Hettinger	Maximum...	64	71	57	58	57	62	77	73	89	86	59	58	69	72	84	91	95	74	82	72	73	82	83	88	79	75	86	86	98	80	....	76.0
	Minimum...	29	37	45	37	45	40	40	50	52	56	45	37	44	34	43	46	51	52	43	49	46	50	52	53	50	40	51	45	63	53	....	45.9
Howard	Maximum...	74	66	62	75	64	67	79	82	90	86	55	55	60	70	82	88	85	79	80	70	70	74	75	82	68	80	79	78	79	87	....	74.7
	Minimum...	29	38	40	35	36	40	40	40	48	47	38	35	40	32	44	45	55	48	40	40	28	45	43	35	34	39	47	46	44	40	....	40.4
Jamestown §§	Maximum...	68	67	61	78	63	55	74	75	88	88	68	63	57	67	72	91	96	70	78	70	67	69	80	77	82	82	77	81	86	71	....	74.0
	Minimum...	33	41	39	37	42	46	46	49	48	56	53	45	43	41	33	40	58	53	50	53	36	43	52	42	54	49	49	50	50	59	....	46.3
Lakota	Maximum...	68	60	48	66	67	..	..	..	85	88	74	59	58	62	88	93	..	73	72	65	63	64	72	82	72	80	84	86	90	81	....	[d]73.1
	Minimum...	25	40	32	30	34	..	..	..	40	40	55	42	33	40	44	49	..	52	41	46	31	40	40	42	50	47	48	45	46	54	....	[d]41.8
Lamoine	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Langdon	Maximum...	67	59	55	66	66	66	77	75	92	87	66	57	48	61	75	85	92	71	71	63	63	59	70	73	74	74	75	72	79	79	....	70.6
	Minimum...	29	42	28	31	37	45	40	45	46	56	58	44	38	34	34	47	51	50	39	51	28	41	45	43	52	48	49	45	47	55	....	43.3
Larimore §§	Maximum...	69	62	44	67	67	65	76	82	90	90	67	60	53	63	74	89	90	60	70	70	62	62	76	75	80	76	75	78	81	80	....	71.8
	Minimum...	26	43	33	32	36	46	46	48	50	56	62	46	33	38	34	52	53	52	46	50	32	46	29	46	50	50	52	50	60	60	....	44.9
Lisbon §§	Maximum...	68	70	72	70	65	68	80	79	84	88	70	64	62	66	74	88	93	80	78	78	68	71	78	83	83	78	78	81	80	81	....	75.9
	Minimum...	26	36	40	38	42	38	43	45	44	44	48	43	41	38	30	46	43	55	45	50	33	42	48	42	52	48	50	52	48	50	....	43.3
McHenry	Maximum...	67	64	53	70	69	63	65	77	90	87	78	64	55	66	69	76	94	84	75	67	69	68	78	71	75	80	79	86	83	79	....	73.4
	Minimum...	28	27	35	33	30	45	34	36	43	56	50	43	28	34	40	54	60	49	41	50	30	35	44	46	50	45	49	47	47	57	....	40.9
McKinney	Maximum...	79	71	62	69	65	70	84	82	103	..	..	..	..	..	..	..	..	..	84	76	70	79	78	84	77	80	84	86	96	81	....	[i]79.0
	Minimum...	29	35	40	23	39	44	44	55	55	..	..	..	..	..	..	..	..	..	53	50	28	40	45	38	48	47	55	44	53	50	....	[i]42.6
Maddock	Maximum...	68	68	64	69	65	58	73	76	91	91	81	66	56	68	79	90	93	90	75	74	65	69	75	75	78	76	83	82	87	82	....	75.6
	Minimum...	24	41	39	31	35	45	41	46	43	55	54	45	36	32	34	57	48	49	39	57	28	46	42	48	51	45	45	42	45	53	....	43.2
Marmarth	Maximum...	65	70	55	51	50	64	72	70	86	75	55	56	65	69	79	84	85	70	78	64	74	75	76	80	86	72	79	81	88	74	....	71.6
	Minimum...	26	35	35	35	40	39	40	42	48	49	43	35	40	34	41	43	50	42	42	49	39	45	42	43	46	40	49	45	45	47	....	41.6
Minot §§	Maximum...	74	61	59	68	63	64	60	80	96	93	62	60	64	72	81	91	94	80	82	60	71	78	75	80	78	81	87	84	95	80	....	75.9
	Minimum...	26	35	37	27	31	43	44	49	52	52	51	41	36	31	39	47	51	52	41	46	28	35	40	40	53	44	49	42	50	50	....	42.1
Mott	Maximum...	71	76	69	77	73	70	66	74	90	81	70	63	66	70	82	88	95	82	71	70	68	78	77	83	81	80	85	88	95	86	....	77.5
	Minimum...	38	35	37	42	40	40	44	50	53	47	37	38	41	32	39	47	54	62	46	40	31	36	40	43	48	53	52	61	60	57	....	44.8
Napoleon §§	Maximum...	68	77	62	68	56	50	76	76	88	89	67	61	63	69	79	89	95	74	80	67	73	78	78	79	78	82	87	84	90	84	....	75.6
	Minimum...	33	40	40	33	35	43	45	47	47	55	56	40	39	35	37	45	53	50	41	50	32	34	46	43	51	44	48	45	48	54	....	43.6
New England	Maximum...	70	77	71	67	53	64	78	80	90	90	66	68	64	76	82	87	93	88	82	68	76	80	84	88	78	82	87	98	78	78	....	78.1
	Minimum...	34	39	37	37	45	42	40	41	44	60	46	46	40	32	41	47	49	39	43	47	37	44	46	44	44	42	49	46	42	42	....	42.8
New Salem	Maximum...	70	75	62	69	66	67	69	78	91	92	78	65	66	71	81	91	96	78	82	68	67	75	79	85	82	78	80	90	93	79	....	77.4
	Minimum...	35	42	36	32	42	41	43	45	50	55	55	45	42	36	39	52	56	51	45	40	30	48	46	44	47	45	48	55	53	34	....	44.4
Orange	Maximum...	65	72	66	63	57	61	76	74	89	91	62	61	68	70	82	88	93	75	80	69	72	75	74	83	80	75	83	84	96	89	....	75.8
	Minimum...	23	33	44	39	48	48	41	51	48	54	46	35	37	36	39	45	49	50	39	46	30	58	43	46	53	48	53	41	63	57	....	44.7
Oriska	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Park River	Maximum...	68	67	58	69	67	70	77	80	94	96	91	66	63	65	77	90	91	86	72	72	63	65	76	75	78	78	77	77	82	81	....	75.1
	Minimum...	31	42	30	30	36	46	42	54	49	54	53	36	..	40	39	57	52	52	43	55	33	34	46	49	52	51	52	50	43	56	....	[a]45.1
Pembina §§	Maximum...	74	62	61	72	71	72	81	72	72	86	71	61	51	62	81	88	82	63	76	66	68	61	72	81	81	78	78	78	82	....	72.8
	Minimum...	38	41	34	32	41	51	43	44	48	48	61	51	41	38	41	48	52	58	41	57	34	51	51	51	57	52	55	53	52	58	....	47.4
Power	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum...	71	71	63	67	65	60	76	79	96	94	89	63	56	67	85	90	95	89	80	78	66	73	73	76	86	78	86	81	91	89	....	77.8
	Minimum...	29	45	40	25	42	46	46	51	49	60	54	44	35	31	39	48	51	53	39	50	28	45	41	42	50	45	51	44	53	52	....	44.3
Wahpeton §§	Maximum...	68	74	65	68	63	60	74	74	84	85	73	62	60	65	73	85	95	74	75	68	66	71	81	80	85	75	74	80	81	89	....	74.2
	Minimum...	32	40	38	45	43	48	47	45	50	60	63	46	43	40	32	52	52	62	44	51	36	48	51	54	60	50	50	54	48	65	....	48.3
Washburn	Maximum...	70	66	58	68	67	58	77	72	91	90	77	60	62	70	82	90	93	76	82	70	70	78	75	78	78	83	83	72	83	75	....	74.1
	Minimum...	40	41	39	32	47	41	48	54	53	60	54	45	44	38	45	54	52	45	45	43	40	35	47	56	45	50	45	41	64	55	....	46.6
Watford	Maximum...	70	..	69	64	57	64	76	74	..	94	60	62	70	70	83	..	92	..	86	65	74	75	79	..	85	78	81	84	93	81	....	[c]75.4
	Minimum...	32	..	38	35	43	53	46	48	..	53	44	34	..	38	48	..	46	..	39	47	19	48	40	..	..	39	47	41	60	..	....	[b]42.2
Westhope	Maximum...	68	67	67	75	67	69	76	80	97	92	74	63	60	61	83	80	92	76	82	69	72	70	79	80	73	81	83	89	82	70	....	75.9
	Minimum...	38	33	24	39	41	46	41	51	56	60	53	42	32	23	40	50	50	51	40	41	28	41	42	43	49	45	52	45	41	52	....	43.7
Williston	Maximum...	71	65	64	65	54	67	77	74	91	76	55	58	63	71	82	82	86	75	79	66	70	74	76	80	69	78	79	82	88	74	....	73.0
	Minimum...	33	46	45	42	46	44	49	49	57	54	43	40	40	40	50	53	59	54	49	43	37	50	51	47	51	46	52	45	60	47	....	47.7
Willow City	Maximum...	71	63	56	67	67	60	76	77	96	91	70	56	50	66	82	87	93	73	75	63	65	68	70	75	73	73	80	80	88	86	....	73.2
	Minimum...	23	43	39	27	35	46	47	46	48	59	52	43	39	30	35	41	44	51	39	46	25	46	45	41	49	44	49	45	51	50	....	42.8
Zap	Maximum...	59	66	61	63	60	54	66	72	75	96	62	62	64	56	69	87	92	70	91	75	72	75	76	79	76	76	83	81	95	79	....	72.9
	Minimum...	25	37	40	31	43	43	44	44	52	56	54	40	43	32	41	45	51	47	40	42	30	47	43	41	48	40	50	45	61	69	....	44.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days. [c], 3 days. [d], 4 days. [i], 5 days.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JULY, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 29, 1917.

Departure of the Mean Temperature from the Normal, July, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., JULY, 1917. No. 7.

GENERAL SUMMARY.

The outstanding feature of the month was the high temperature of the 27th and 28th. Although the highest temperature recorded, 114°, was equaled in July, 1910, and in August, 1900°, and exceeded in August and September, 1912, with 118° and 124°, respectively, never before, since the State climatological service was established in 1892, have the high temperatures been so general all over the State. All the former high records mentioned above were made at Medora, in the Bad Lands, where conditions are somewhat abnormal, while in July, 1917, the highest temperatures were recorded in the eastern part of the State. All stations recorded temperatures of 100° or over on either the 27th or 28th, or on both dates. During the first two decades of the month the temperature was near the normal, the period of excesssve heat being confined to the last decade. The precipitation, as during the two preceding months, was decidedly deficient, being only 64 per cent of the normal. Exeept in a few favored counties in the northeastern portion of the State, where the rainfall was above the normal, the crops suffered severely from drought and heat, resulting in partial crop failures in many sections, especially in the western portion of the State, where the rainfall was most defieient. Livestock suffered on aceount of the poor condition of pastures and ranges. Frost or freezing temperature occurred at a few stations in the northern and central portions of the State on the 2d and 3d, resulting in some local damage to corn, potatoes and gardens. The excessive heat of the last decade caused early ripening of wheat and oats, so that these crops were generally ready for cutting at the end of the month. —E. G. L.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.87 inehes. The highest was 30.28 inehes at Williston, Williams County, on the 2d; the lowest, also at Williston, was 29.33 inehes on the 27th.

TEMPERATURE.

The mean temperature for the State was 70.9°, or 3.4° above the normal, and 2.2° lower than the mean for July, 1916. The highest mean reported was 74.8° at Washburn, McLean County; the lowest was 67.0° at Langdon, Cavalier County. The highest temperature reported was 114° at Colgate, Steele County, on the 28th; the lowest was 27° at Marstonmoor, Stutsman County, on the 3d. The greatest monthly range of temperature was 81° at three stations, Grand Rapids, La-Moure County, Marstonmoor, Stutsman County, and Napoleon, Logan County; the least was 61° at two stations, Dunseith, Rolette County, and Pembina, Pembina County. The greatest daily range was 64° at Cando, Towner County, on the 23d. Usually the highest temperature oceurred on the 27th or 28th, and the lowest on the 2d or 3d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 64 per cent, the average at 7 a. m. being 79 per cent, and at 7 p. m. 49 per cent.

PRECIPITATION.

The average precipitation for the State was 1.66 inches, or 0.95 inch below the normal, and 1.50 inches less than the average for July, 1916. The greatest monthly amount reported was 3.66 inches at Willow City, Bottineau County; the least was 0.14 ineh at Buford, Williams County. The greatest amount recorded in any twenty-four consecutive hours was 2.83 inches at Willow City, Bottineau County, on the 4th. The average number of days with 0.01 inch or more of precipitation was 7. All the precipitation was in the form of showers, which were fairly well distributed throughout the month, but were most numerous on the 4th and 5th, from the 10th to the 15th, inclusive, on the 24th, 25th, 29th, and 31st. The precipitation was greatest in the northeastern portion of the State, ranging from two to over three inches in that section, and least in the extreme western portion, where it was less than one inch, the average for that section being half an inch. Elsewhere the amounts were near the average for the State, except in a few southeastern counties, where the amounts were two inehes and over.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 8.8 miles. The greatest wind movement was 7,488 miles at Bismarck, an average of 10.1 miles per hour; the least was 5,360 miles at Moorhead, Minn., an average of 7.2 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 48 miles per hour from the west at Grand Forks on the 8th.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 17, partly cloudy days 11, and cloudy days 3.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.53	−2.08	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	0.95	7	17	11	3	nw.

Climatological Data for July, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	71.2	+2.9	106	28	38	2	48	1.57	−1.74	0.92	0	5	21	6	4	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	71.0	+2.7	108	28	31	3	42	1.98	−0.70	1.20	0	6	27	4	0	se.	R. C. Miles.
Beach	Golden Valley	2,576	11	71.0	+4.0	110	27	35	2	48	0.21	−1.78	0.12	0	4	24	5	2	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	71.9	+3.0	103	23†	35	2	50	1.55	−0.43	1.03	0	8	25	6	0	nw.	C. L. Hall.
Bierman	Slope	.....	1	73.2	.....	104	27	41	12	36	0.73	.....	0.30	0	4	15	8	8	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	73.2	+3.0	107	28	44	3	40	1.50	−0.64	0.42	0	12	15	15	1	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	70.0	+4.3	104	27	34	2	48	1.87	−0.68	0.61	0	11	17	10	4	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	67.4	.....	103	27	31	2	50	1.39	.....	0.47	0	8	24	6	1	.....	G. H. Phelps.
Bowman	Bowman	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. S. Diehl.
Buford	Williams	1,944	38	72.8	+3.4	105	27	37	2	49	0.14	−1.56	0.08	0	4	15	16	0	nw.	P. Elmore.
Cando	Towner	1,488	16	70.2	+4.4	105	28	33	3	64	1.83	−0.82	0.52	0	13	11	15	5	se.	E. T. Judd.
Carson	Grant	2,500	5	72.0	.....	104	27†	36	2	56	1.53	.....	0.40	0	10	15	16	0	s.	J. W. Evens.
Colgate	Steele	1,177	3	72.2	.....	114	28	37	2	51	1.90	.....	1.35	0	5	16	10	5	se.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	1.90	−1.00	0.95	0	5	23	6	2	nw.	S. Friswold.
Crosby	Divide	1,954	10	69.8	+4.2	105	27	34	2	46	0.79	−1.07	0.55	0	4	20	5	6	nw.	B. Lanenster.
Devils Lake	Ramsey	1,478	13	70.0	+1.9	106	28	37	2	40	1.60	−2.18	0.30	0	16	9	15	7	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	71.6	+3.7	108	28	37	2	47	1.40	−0.88	0.70	0	3	14	6	11	se.	J. C. Thysell.
Donnybrook	Ward	1,760	18	69.4	+3.9	104	27	34	2	47	1.31	−1.65	1.19	0	4	20	10	1	.....	Geo. Michel.
Dunseith	Rolette	1,682	21	67.4[e]	+3.5	96[e]	21†	35	2	37[e]	2.58	+0.17	1.00	0	12	18	9	4	ne.	J. G. Lamont.
Eckman	Bottineau	.....	12	69.8	+4.0	104	27	31	3	49	0.97	−1.73	0.39	0	6	23	6	2	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	71.3	+2.8	110	28	33	3	47	1.97	−0.82	0.71	0	9	8	17	6	se.	O. A. Thompson.
Energy ††	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	1.38	.....	0.34	0	8	7	22	2	se.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.44	0	5	20	11	0	e.	M. E. Uggen.
Fessenden	Wells	1,610	5	69.1	.....	109	28	34	2†	52	2.84	.....	0.58	0	13	22	9	0	se.	G. T. Seymour.
Forman	Sargent	1,249	25	72.9	+3.7	110	28	44	3†	44	1.30	−1.62	0.95	0	3	17	13	1	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	71.8	+4.0	108	28	35	3	42	1.43	−1.84	0.50	0	5	23	8	0	s.	F. O. Alin.
Garrison	McLean	1,901	22	71.5	+3.6	104	28	36	2	44	1.52	−0.83	0.98	0	4	17	13	1	nw.	G. L. Robinson.
Grafton	Walsh	827	25	68.4	+1.0	104	28	36	3	45	2.72	+0.19	0.85	0	14	20	2	9	sw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	68.8	+1.6	106	28	40	2	41	2.84	+0.25	2.22	0	7	22	3	6	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	71.0	.....	112	28	31	3	44	0.50	.....	0.20	0	4	15	13	3	nw.	G. H. Leick.
Granville	McHenry	1,504	10	70.5	+3.4	101	27	34	3	47	1.50	−0.66	0.49	0	8	11	16	4	s.	W. A. Christianson.
Hamah	Cavalier	1,568	12	.....	.....	100[k]	21	33[l]	2	42[l]	3.34	+0.93	0.98	0	6	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	9	68.2	.....	101	28	33	3	47	2.95	.....	1.05	0	9	18	12	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	73.6	+4.6	105	23†	38	2	45	1.28	−1.68	0.55	0	7	20	7	4	se.	A. J. Ogaard.
Hillsboro	Traill	901	11	70.0	+0.5	106	28	39	2	43	2.65	−0.15	0.99	0	7	18	13	0	s.	F. E. Mayall.
Howard	Williams	2,275	10	69.8	+4.7	107	27	28	2	59	0.34	−1.34	0.33	0	3	8	22	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	72.2	+4.0	112	28	37	3	44	1.30	−1.52	0.65	0	7	17	8	6	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	68.1	+2.7	105	28	33	3	45	2.24	−0.74	1.31	0	7	10	14	7	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	70.6	+4.7	108	28	32	2	48	0.98	−1.73	0.47	0	5	16	10	5	n.	E. V. Virgin.
Langdon	Cavalier	1,615	21	67.0	+2.6	101	28	35	2†	42	2.58	+0.03	0.38	0	14	26	1	4	.....	R. T. Burke.
Larimore	Grand Forks	1,134	22	69.0	+2.8	105	28	36	2	37	2.36	−0.67	0.88	0	10	17	8	6	nw.	G. G. Graham.
Lisbon	Ransom	1,091	13	71.0	+2.8	110	28	40	4†	47	2.58	−0.97	0.95	0	7	24	2	5	nw.	W. S. Adams.
McHenry	Foster	1,509	7	69.6	.....	108	28	35	2	41	1.90	.....	0.53	0	8	21	10	0	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	69.6	+3.9	104	27	33	2	50	0.81	−1.26	0.45	0	3	15	16	0	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	71.4	.....	105	28	40	2†	36	2.03	.....	0.65	0	10	20	10	1	se.	R. D. Markland.
Maddock	Benson	.....	2	69.8	.....	104	28	30	2†	51	2.55	.....	0.90	0	12	6	16	9	sw.	F. P. Cowing.
Mandan	Morton	1,644	3	73.0	.....	107	28	40	3	46	1.58	.....	0.37	0	9	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	71.4	+4.8	106	28	35	2†	42	1.80	−0.49	0.47	0	12	16	12	3	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	1.52	.....	0.70	0	5	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	70.6[a]	.....	104[a]	27	40[a]	2†	50[a]	0.35	.....	0.27	0	4	.....	.....	.....	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	69.1[a]	.....	108[a]	28	27[a]	3	48[a]	0.83	.....	0.48	0	4	.....	.....	.....	se.	H. H. McCumber.
Mayville	Traill	975	21	71.2	+2.1	108	28†	37	2	51	3.36	0.00	2.45	0	5	23	5	3	.....	W. C. Gould.
Melville	Foster	1,590	19	70.6	+2.9	110	28	30	2	48	2.30	−0.53	0.95	0	6	.....	.....	.....	sw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.67	0	3	21	10	0	s.	Hj. Edman.
Minot	Ward	1,557	21	70.2	+2.2	105	27	34	2	49	2.62	+0.66	0.70	0	11	17	12	2	nw.	W. I. Faris.
Minto	Walsh	820	24	70.2	+3.1	104	28	37	3	44	2.19	−0.60	1.37	0	8	20	7	4	se.	C. M. Evans.
Mott	Hettinger	2,424	10	73.3	+4.6	105	27	36	1	42	2.89	+0.51	1.61	0	7	17	11	3	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	71.3	+3.2	111	28	30	3	48	2.08	−0.40	1.46	0	10	18	11	2	s.	C. J. Hoof.
New England	Hettinger	2,400	23	72.8	+4.6	107	27	40	2	49	1.69	−0.09	0.62	0	4	14	14	3	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Christiansen.
Orange ††	Adams	2,586	8	72.2	.....	105	27	35	3	44	1.04	.....	0.46	0	4	4	20	7	nw.	T. F. Young.
Oriska	Barnes	1,270	12	69.6	+1.6	110	28	36[a]	3	41	1.70	−1.36	0.96	0	6	.....	.....	.....	nw.	J. J. Taylor.
Park River	Walsh	998	13	71.2[e]	+3.4	107[e]	28	39[e]	3	44[e]	1.82	−0.67	0.68	0	7	.....	.....	.....	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	0.56	.....	0.29	0	2	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	43	72.0	+4.6	104	28	43	2†	39	2.64	+0.05	1.10	0	8	17	12	2	sw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.62	0	4	28	2	1	nw.	C. Frank.
Sanish	Mountrail	2,200	.....	73.2	.....	108	27	40	2	46	1.26	.....	0.78	0	4	.....	.....	.....	nw.	E. H. Seneehal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	20	72.8	+4.2	109	28	34	3	42	1.32	−1.34	0.60	0	11	10	20	1	nw.	H. S. Wood.
Taylor	Stark	2,493	1	72.3	.....	105	27	40	2	41	1.22	.....	0.35	0	6	16	11	4	se.	H. Leutz.
Towner	McHenry	1,482	15	71.0	+4.1	104	28	32	3	50	1.82	−0.78	0.54	0	9	19	12	0	nw.	B. Bagley.
Walhalla	Pembina	966	23	72.4	+3.2	109	28	39	3	40	1.36	−2.70	0.47	0	8	20	9	2	n.	F. E. Smith.
Walhalla	Pembina	966	10	71.8[r]	+5.1	104[r]	29	37[r]	3	38[r]	1.55	−1.65	0.44	0	8	.....	.....	.....	.....	Ivan Lee.
Washburn	McLean	1,734	18	74.8	+5.7	107	28	43	3	40	1.55	−0.75	0.50	0	7	.....	.....	.....	se.	J. T. McCulloch.
Watford	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. Johnson.
Westhope	Bottineau	1,508	11	69.8	+4.1	102	27	37	2	45	0.98	−1.08	0.70	0	4	14	16	1	ne.	W. A. Meddaugh.
Williston	Williams	1,875	38	72.1	+2.7	106	27	39	2	41	0.36	−1.67	0.15	0	7	17	13	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	67.8	+2.4	100	27	32	3	45	3.66	+1.49	2.83	0	6	11	19	1	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	73.0	.....	107	27	35	2	48	1.13	.....	0.41	0	9	15	15	1	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	72.5	+3.8	110	28	42	2	37	0.81	−2.93	0.30	0	8	26	5	0	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	70.9	+3.4	114	28	27	3	64	1.66	−0.95	2.83	0	7	17	11	3	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for July, 1917.

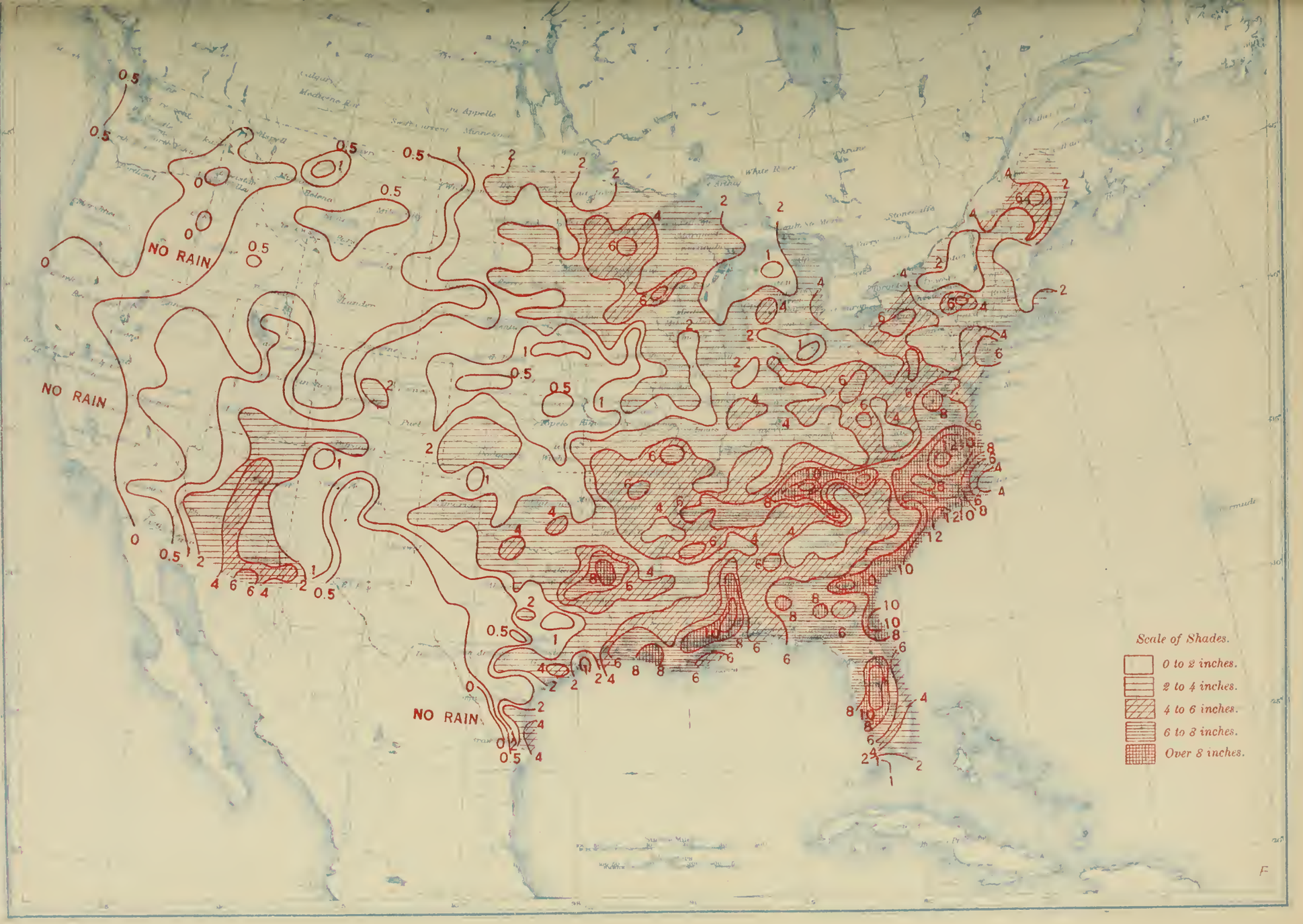
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red					.18	.92					.27		.02						T.							T.				T.	.18	1.57
Ashley	Missouri					1.20				T.	.26		.15		T.	.09									.19			T.	.09			1.98
Beach	Lit. Missouri			T.															.02						.05				.02			.12	0.21
Berthold Agency	Missouri	T.			1.03	.04				.05			.04	T.	.25				.01		T.				T.	.07					.06	T.	1.55
Bierman	Lit. Missouri				.30			.13								.05			T.	T.	.25				T.								0.73
Bismarck ***	Missouri	T.			.05	.06		T.	.04	.38	T.	T.	.05		.04				.05		.01				.14	.17			.27	.24	T.	1.50
Bottineau ‖ ‖	Mouse	.33				.61	T.		.02			.04		.16	T.	.06				.02	.01				T.	.32	.08					.42	1.87
Bowbells ‖ ‖	Mouse	.09				.23						.08			.47											.15	.06					.08	1.39
Bowman	Grand																																
Buford	Missouri				.08	T.			T.		T.		.02	T.	.03				T.						T.						T.	.01	0.14
Cando	Sheyenne	.15			T.	.22	.19		.05		.10		.04	.05					.52		.05				.01	.15				.10		.20	1.83
Carson	Heart					.12	.10	.01			.26	.40		.01		.27					.04					.19				.13			1.53
Colgate	Sheyenne			T.		1.35			T.		.04		T.		T.	T.				.01		.35			T.	.15							1.90
Cooperstown	Sheyenne					.95					.10		.35									.30			.20								1.90
Crosby	Mouse				.55						.03			.13	T.					.08					T.			T.					0.79
Devils Lake ***	Sheyenne	.04			.02	.17		.08			.22		.30		.03	.05			.12		.03	.01			.01	.05				.19	.15	.13	1.60
Dickinson ‖ ‖	Heart					.70		T.		.02			T.							T.	T.					T.						.68	1.40
Donnybrook	Mouse				1.19	.02												T.	T.	T.					T.	T.					.09	.01	1.31
Dunseith	Mouse	.20			1.00	.16			.01					.13	.01	.03						.04				.70		.01			.03	.26	2.58
Eckman	Mouse				.02	.39		.11					.05								.20				T.						.20		0.97
Edgeley	James					.19					T.	.15	.08	.09		.54					.10					.04				.71		.07	1.97
Energy	Missouri	T.		T.	.34	T.	T.			.04			.03	.18	.33										.05				.14		.27		1.38
Epping	Missouri					.20			T.					.44	.06						.03									T.	T.	.10	0.83
Fessenden ‖ ‖	James	T.	T.			.02	.20		.13		.07	.41		.04	.58		.06			.28	.07					.13					.40		.45	2.84
Forman	Sheyenne					.10					T.				T.															.95		.25	1.30
Fullerton	James									T.			.11	.35	T.	.50					T.	T.				T.				.36		.11	1.43
Garrison	Missouri				T.	.98								.14	.26															.14	T.	T.	1.52
Grafton ‖ ‖	Red					.15	.85		.05		.63	.08		.01	.64	.01				.01					.11	.01	.01			.01		.15	2.72
Grand Forks	Red	T.				2.22			.14		.32		T.	.05	.03										.06	T.						.02	2.84
Grand Rapids	James					.10					T.		.10			.10				T.									.20		T.	0.50
Granville	Monse				.12	.38							.18	.22	T.					T.					T.	.05				.04	.49	.02	1.50
Hannah	Pembina				.56	.98					.96			.48	T.				.03						.33								3.34
Hansboro	Red	.05			.21	1.05		.08					.36		.10				.10							.80						.20	2.95
Hettinger	Grand					.55		.14			.12					.25			.05		T.	T.	T.		T.	.09				.08	T.		1.28
Hillsboro	Red					.99	.30		.82		.10					.08							.19			.17							2.65
Howard	Missouri				*	.33			T.	T.	T.		.01	T.						T.		T.		T.	T.	T.			T.				0.34
Jamestown ‖ ‖	James					.37	.10					.02		.05						.06		.65				.05							1.30
Lakota	Sheyenne					1.31			.30		.40		.01		T.					.03		T.			T.	.10				.09	T.	T.	2.24
Lamoine	Missouri					.08		T.		T.	T.		.11	T.	T.										.11		T.			.47		.21	0.98
Langdon ‖	Pembina	.02	.08			.07	.38	.07	T.		.42					.16	.14	T.		.32		T.	T.		.05	.22	.15			.30		.23	2.58
Larimore ‖	Red					T.	.88		.25		.10	.30		.60		.02									.02	.14	.05					.02	2.36
Lisbon ‖	Sheyenne					.17	.07							.95			.12						.12				T.				.95	.20	2.58
McHenry	James					.45		.10					.53	.12	.28				T.		T.	.12			.10	.26						T.	1.90
McKinney	Mouse				.45								.26		.10					T.					T.	T.							0.81
McLeod	Sheyenne				T.	.22					.02			.65	.05	.03				.40			.04			.02					.33	.27	2.03
Maddock	Sheyenne	.06				.28			.90		.05	.08	.03	.24							.04	.02				.24				.16		.45	2.55
Mandan ‖	Missouri					.11	.04		T.	.37	T.		T.	T.		.08					.07	.03				.21	T.			.37		.30	1.58
Manfred	Sheyenne	.04				.36			T.	T.	.11		.07	.11					.02		.20	.03			.03	.02				.34		.47	1.80
Manning	Knife				.70	.15		.37							.19											.11							1.52
Marmarth	Lit. Missouri	T.		T.	.02			.27		.05											.01				T.	T.							0.35
Marstonmoor	James	.06				T.		T.			T.		T.	T.		T.					T.			T.	.48					.07		.22	0.83
Mayville	Red					2.45	.28		.35		.09			.19										T.						T.			3.36
Melville	James					.48		T.			.33		T.	.24					.95						.15						T.	.15	2.30
Milnor	Red	T.				T.								.67		T.				.20											T.	.52	1.39
Minot ‖ ‖	Mouse	.03				.12	.15		.36					.56	.70	.10					.08						.08			.02		.42	2.62
Minto	Red					1.37	.05	.01			.20		.18	.14											.02				.22				2.19
Mott	Cannon Ball				1.61	.70		.08		.06	.28								.12											.04			2.89
Napoleon ‖	Missouri					1.46	.05			.07	.11	.10						.01				.14			.05	.03	.00						2.08
New England	Cannon Ball				.08	.51		.48			.62																						1.69
New Salem	Heart																																
Orange	Cannon Ball				.46			.33													.09									.16			1.04
Oriska	Sheyenne					.96							.02	.30		.02				.32						T.				T.	T.	.08	1.70
Park River	Red	T.				.57	.11		T.		.19		T.	.11	.12											.04				.68		T.	1.82
Parshall	Missouri				.27																	.29											0.56
Pembina ‖	Red	.08	T.			.08	1.04				.10			T.	.04					1.10					T.		.10			.10			2.64
Power	Sheyenne																																
Powers Lake	Missouri				T.						T.									.62	T.			.02							.10		0.90
Sanish	Missouri				.78										.41																.05	.02	1.26
Searing	Lit. Missouri																																
Steele	Missouri				.60	.04		.04	.06		.05				.01	T.	.13								.05	.05			.20	T.	.09		1.32
Taylor	Heart				.24	.35				.34	.06		.17		.06																		1.22
Towner	Mouse	.20			.20			.54			.12		.03								.26	.03				.21						.23	1.82
Wahpeton ‖	Red					.05	.18				.29	T.		.47	.06	.05	.11															.15	1.36
Walhalla	Pembina					.44	T.															.06			.14	.28		.20	.05	.15		.23	1.55
Washburn	Missouri				.12	.33		.50							.05				.15											.03		.37	1.55
Watford	Lit. Missouri																																
Westhope	Mouse					T.							.05	.07												.70						.16	0.98
Williston ***	Missouri				.15				.01		T.		.08	T.	.02					T.					T.	.02		.03	T.		T.	.05	0.36
Willow City	Mouse	.04			2.83	T.		T.			T.		.28	T.	T.						T.	.08			T.	.19			T.		T.	.24	3.66
Zap	Knife				.14	.14				.41	.08		.07	.07	.14				.05						.03								1.13
Moorhead, Minn ***	Red					.30					.06			.02		.14						.18				.01				.01	T.	.09	0.81

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	71	70	72	78	82	87	85	83	81	82	79	82	80	81	79	87	87	92	90	105	102	84	88	92	90	85	94	106	100	89	89	86.2
	Minimum	56	38	41	46	57	54	58	63	54	58	62	48	56	53	51	52	50	55	59	57	64	65	51	58	70	62	60	67	69	51	58	56.2
Ashley	Maximum	74	70	73	80	78	87	85	83	77	86	79	79	78	78	75	83	92	88	87	96	93	83	91	88	90	89	93	108	97	84	86	84.8
	Miuimum	52	38	31	48	58	56	58	62	58	62	54	47	55	49	58	48	60	67	65	59	67	58	57	68	68	62	62	72	68	49	56	57.2
Beach	Maximum	72	75	83	92	80	97	83	85	98	86	83	84	81	83	80	89	96	85	97	101	99	88	105	90	95	99	110	95	90	94	73	88.6
	Minimum	45	35	46	49	50	49	46	48	52	52	44	52	50	53	41	42	59	41	56	56	60	49	68	55	69	65	71	73	70	65	46	53.5
Berthold Agency	Maximum	76	77	86	93	79	94	98	90	91	89	82	85	80	76	86	85	95	91	99	98	99	90	103	89	94	98	103	97	85	80	77	86.2
	Minimum	52	35	36	57	53	49	60	47	62	58	49	51	45	50	49	59	56	56	51	59	66	57	57	65	63	55	69	73	65	41	47	54.6
Bismarck	Maximum	73	70	76	82	77	92	92	90	81	89	82	84	80	78	78	84	88	94	89	95	100	88	95	91	94	94	99	107	90	79	78	86.7
	Minimum	55	44	44	56	59	56	66	58	62	65	57	52	52	54	54	52	59	64	61	67	72	64	55	73	72	65	70	77	60	51	54	59.7
Bottineau §§	Maximum	67	69	67	78	77	90	95	84	82	87	81	77	78	77	83	86	92	96	87	91	101	84	96	82	85	90	104	101	93	87	88	85.6
	Minimum	51	34	40	47	58	52	63	55	51	53	53	47	47	51	51	56	57	62	60	59	65	63	54	58	59	55	58	67	68	39	52	54.4
Bowbells §§	Maximum	68	70	73	71	80	94	95	93	94	88	79	76	81	74	79	85	94	92	89	89	90	97	97	78	91	92	103	96	78	85	74	85.3
	Minimum	49	31	39	40	42	50	53	47	45	49	46	48	41	46	44	51	53	59	55	57	53	51	47	59	59	54	57	71	58	41	41	49.5
Carson	Maximum	70	70	77	85	78	90	90	91	88	89	80	85	80	77	75	82	90	95	90	96	95	85	96	90	93	94	104	104	92	80	77	86.6
	Minimum	60	36	42	53	53	54	65	62	54	59	50	55	48	47	45	52	56	59	55	64	65	55	68	74	70	60	68	75	67	58	52	57.5
Colgate	Maximum	86	73	84	80	81	91	86	86	80	86	82	78	85	87	86	89	92	92	93	98	100	99	94	95	92	96	103	114	105	100	92	90.5
	Minimum	40	37	40	44	48	48	58	60	51	58	56	46	55	48	48	49	56	52	52	52	52	52	44	68	69	62	52	75	84	60	52	53.8
Crosby	Maximum	66	70	81	96	76	88	92	89	89	84	84	70	81	78	78	82	90	88	84	93	97	84	94	85	94	92	105	94	78	84	68	85.0
	Minimum	50	34	49	50	54	55	58	49	69	48	44	55	48	54	50	55	55	60	58	57	63	56	63	55	62	58	70	68	56	45	46	54.6
Devils Lake	Maximum	65	66	72	79	72	90	90	80	79	82	76	77	77	73	80	84	86	92	87	94	98	83	88	86	92	91	98	106	93	87	78	83.9
	Minimum	44	37	38	53	59	55	66	56	50	59	56	51	50	52	50	53	59	64	59	64	68	59	48	67	62	60	60	76	62	49	54	56.1
Dickinson	Maximum	72	78	83	90	80	90	94	89	95	91	82	83	80	76	92	82	93	91	95	95	89	89	102	88	95	95	108	105	96	84	78	89.0
	Minimum	52	37	39	51	51	48	59	50	50	62	53	49	45	48	45	57	59	56	51	55	63	54	60	67	65	59	68	70	65	44	52	54.3
Donnybrook	Maximum	69	71	79	85	77	91	95	85	85	85	79	78	80	74	80	85	92	93	91	90	97	84	97	89	91	93	104	101	87	85	75	86.0
	Minimum	50	34	36	54	63	53	53	47	55	58	50	48	47	49	46	50	58	58	63	58	61	50	50	62	62	59	51	68	76	60	41	42	52.9[a]
Dunseith	Maximum	78	65	72	75	74	85	89	84	77	80	78	75	74	72	77	81	86	91	83	87	96	....	....	....	....	....	....	....	90	81	76	[g]80.2
	Minimum	50	35	40	50	52	51	62	55	48	52	53	52	46	51	51	52	58	53	61	57	66	61	52	62	61	56	68	72	65	44	48	54.6
Edgeley	Maximum	79	70	74	81	80	87	91	85	85	90	85	79	77	79	73	83	85	90	89	97	96	85	94	93	92	90	98	110	97	84	86	86.6
	Minimum	57	36	33	42	62	58	59	62	54	58	57	45	55	55	50	51	53	58	58	58	62	63	47	70	69	63	60	71	64	50	57	56.0
Fessenden §§	Maximum	71	69	74	81	78	90	94	86	81	89	77	79	78	76	78	82	88	94	85	89	100	83	94	93	94	89	99	109	92	85	79	85.7
	Minimum	51	34	34	43	54	51	60	53	54	56	51	45	48	49	49	48	50	60	55	59	60	59	42	53	66	56	60	68	63	46	49	52.5
Forman	Maximum	83	71	77	82	84	92	91	85	88	92	85	79	79	86	86	88	89	92	94	101	99	90	98	98	90	93	100	110	104	80	85	89.4
	Minimum	57	45	44	50	64	56	62	65	59	65	61	50	57	56	56	55	56	57	66	64	55	55	46	60	60	54	56	60	60	49	50	56.4
Fullerton	Maximum	71	69	71	79	80	90	87	85	79	90	84	79	76	78	74	76	90	85	93	94	93	85	92	92	90	87	95	108	97	85	84	85.1
	Minimum	49	36	35	49	62	63	58	62	55	60	56	48	54	55	60	52	63	68	58	62	70	62	49	69	72	70	62	70	70	52	64	58.5
Garrison	Maximum	76	70	79	83	78	90	95	83	83	89	80	84	81	76	80	84	90	95	95	98	98	86	97	89	96	95	103	104	93	80	79	87.4
	Miuimum	49	36	37	55	55	60	63	62	60	62	50	48	46	51	48	50	55	61	55	57	58	59	53	63	60	58	65	76	66	54	52	55.6
Grafton §§	Maximum	66	66	68	79	68	85	88	88	74	74	86	77	79	75	81	84	85	90	85	93	95	82	88	86	91	85	95	104	94	88	86	83.4
	Minimum	56	39	36	43	52	52	59	68	47	48	52	46	50	52	55	51	51	57	59	58	61	63	43	55	61	60	51	59	67	42	58	53.3
Grand Forks	Maximum	66	66	66	78	75	83	88	76	75	77	75	72	73	74	78	82	83	87	84	91	92	81	87	85	87	85	94	106	95	83	84	81.5
	Minimum	44	40	45	46	60	57	62	60	51	61	56	49	54	52	54	52	54	57	59	60	67	59	47	71	65	60	53	75	62	48	57	56.0
Granville	Maximum	72	72	80	87	79	92	79	84	82	87	88	78	80	76	83	85	93	95	91	94	95	88	97	87	91	93	101	99	90	72	63	84.5
	Minimum	52	35	34	57	55	53	67	51	56	57	52	58	48	50	50	50	58	60	60	60	60	56	61	62	56	71	80	70	47	50	55.7
Hannah	Maximum	65	61	72	73	75	86	89	82	85	86	84	80	79	78	83	87	86	91	84	....	100	....	....	....	....	....	....	....	....	....	....	[b]81.3
	Minimum	49	33	34	38	40	50	56	60	57	55	51	52	49	48	46	48	47	49	50	....	....	....	....	....	....	....	....	....	....	....	....	[b]48.0
Hansboro	Maximum	67	66	67	78	80	88	92	76	80	82	80	76	76	78	80	84	90	94	94	90	97	80	91	83	80	88	96	101	94	85	87	84.0
	Minimum	50	37	33	47	57	57	57	52	45	58	56	45	50	48	50	48	53	50	50	57	60	57	44	67	57	60	55	72	65	44	58	52.5
Hettinger	Maximum	78	77	82	78	80	95	94	90	97	92	86	91	81	82	79	85	97	98	95	101	97	93	105	93	95	97	105	104	93	93	79	90.7
	Minimum	50	38	45	53	54	50	63	60	64	63	48	53	48	47	50	49	59	55	54	62	61	56	61	71	63	54	69	71	64	54	60	56.4
Howard	Maximum	86	87	88	84	82	93	90	83	93	91	84	82	82	80	81	87	96	93	91	96	95	88	95	95	95	96	107	96	82	92	72	89.1
	Minimum	40	28	44	46	41	45	50	46	65	55	47	45	44	51	42	59	47	57	54	53	51	43	44	62	62	58	56	68	68	63	30	50.5
Jamestown §§	Maximum	86	70	75	81	81	92	89	87	83	88	81	81	80	83	79	84	89	95	88	101	99	88	98	88	91	89	100	112	98	87	84	88.0
	Minimum	42	39	37	40	62	56	61	69	55	60	57	43	53	51	50	51	54	58	59	63	61	60	54	63	71	62	62	72	72	53	54	51.3
Lakota	Maximum	66	68	71	76	73	85	86	78	76	78	76	77	76	74	80	84	85	91	84	93	97	83	87	88	89	80	95	105	93	87	79	82.6
	Minimum	53	34	33	48	59	59	62	56	49	58	54	46	50	46	50	46	50	54	56	60	61	61	42	69	61	59	53	75	64	43	52	53.6
Lamoine	Maximum	70	68	76	83	86	91	90	85	85	88	79	81	76	77	78	84	88	96	88	92	100	88	95	91	93	88	101	108	88	78	78	85.9
	Minimum	50	32	33	48	52	52	58	55	53	60	56	43	53	48	53	46	58	58	60	65	67	60	47	67	67	57	66	78	72	47	52	55.3
Langdon	Maximum	64	62	73	76	69	84	90	75	76	78	74	74	77	71	78	84	87	93	80	86	97	78	89	83	85	87	96	101	90	87	81	81.5
	Minimum	52	35	35	47	55	52	65	53	45	53	53	45	44	49	50	50	53	56	55	60	63	58	47	53	58	57	58	68	65	45	46	52.4
Larimore §§	Maximum	67	65	68	78	74	84	87	87	74	79	75	79	77	73	76	83	83	87	83	92	95	80	80	85	86	83	92	105	94	84	85	81.9
	Minimum	54	36	40	42	60	56	60	60	50	57	58	48	54	52	53	54	52	56	60	62	60	64	50	70	65	60	55	70	69	53	58	56.1
Lisbon §§	Maximum	79	78	74	76	86	89	90	86	82	87	80	80	81	82	77	84	88	92	86	98	99	85	93	93	93	93	97	110	99	78	87	87.2
	Minimum	52	45	45	40	40	42	45	58	52	51	58	45	47	54	54	51	42	62	70	64	65	66	51	65	67	60	63	69	70	50	55	54.8
McHenry	Maximum	67	67	76	78	70	87	85	87	80	83	85	84	77	75	79	84	85	80	86	94	101	88	89	90	90	88	99	108	95	86	85	84.8
	Minimum	50	35	36	46	44	50	55	57	51	50	52	48	50	50	58	54	54	55	54	60	71	53	55	68	67	60	67	80	60	45	53	54.4
McKinney	Maximum	75	75	81	82	79	95	100	86	90	90	81	83	82	75	86	88	96	94	90	92	98	87	100	83	92	93	104	101	97	89	83	88.6
	Miuimum	40	33	34	52	54	52	57	40	56	60	40	45	40	59	45	45	49	57	50	52	56	52	50	62	62	54	54	74	60	40	40	50.5
Maddock	Maximum	73	69	74	82	76	90	94	94	81	84	83	77	78	78	80	82	88	93	92	91	99	86	90	89	91	90	98	104	103	86	78	86.2
	Miuimum	52	30	30	53	57	48	62	57	52	58	52	45	48	48	45	49	52	61	59	60	60	58	39	65	67	59	58	76	64	41	53	53.5
Marmarth	Maximum	73	75	80	88	90	95	91	92	98	88	84	84	77	78	78	90	93	85	93	96	....	90	101	92	94	97	104	97	87	89	73	[a]88.4
	Minimum	50	40	40	44	45	45	63	57	60	50	47	47	47	49	47	46	45	60	52	56	....	56	54	66	63	53	71	70	60	53	51	[a]52.9
Minot §§	Maximum	74	73	81	87	79	95	99	85	85	90	83	90	79	74	81	86	93	94	92	93	99	85	97	82	94	94	105	104	91	83	75	87.8
	Minimum	51	34	38	46	54	50	57	46	57	58	52	45	47	50	48	52	55	63	54	57	63	55	51	57	60	54	56	70	64	40	47	52.6
Mott	Maximum	78	77	85	90	80	90	87	87	91	88	87	86	84	84	80	85	91	88	90	97	96	87	92	94	95	96	105	101	91	88	80	88.7
	Minimum	36	37	51	66	63	70	67	64	58	67	61	54	46	47	53	57	63	56	61	67	68	60	63	61	64	59	67	62	50	52	46	57.9
Napoleon §§	Maximum	75	72	78	83	77	91	90	85	80	90	80	83	78	80	78	85	90	95	92	102	98	87	95	90	95	94	100	111	100	85	95	88.2
	Minimum	54	33	30	35	56	55	57	60	58	58	53	46	50	50	48	46	50	60	51	62	64	56	47	65	70	64	64	68	70	55	50	54.4
New England	Maximum	78	78	83	95	82	95	92	90	98	92	82	86	84	86	86	88	90	96	99	97	101	98	104	87	90	95	101	107	100	85	85	85	91.3
	Minimum	42	40	42	46	46	49	58	58	62	62	50	50	46	46	50	52	54	56	56	58	60	57	67	62	57	57	67	67	60	53	53	54.3
New Salem	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Orange	Maximum	75	73	79	89	87	90	87	85	94	90	84	88	87	76	78	89	91	94	93	98	94	87	99	94	96	97	105	104	99	83	79	89.2
	Minimum	52	36	35	53	52	48	62	58	62	63	50	52	49	45	47	45	58	53	52	57	65	56	60	73	68	56	66	70	61	59	50	55.3
Oriska	Maximum	84	68	70	70	79	85	84	84	84	85	77	80	77	77	80	82	87	88	87	92	93	83	33	93	91	86	95	110	97	88	87	84.9
	Minimum	54	38	36	38	40	56	58	58	54	54	61	48	54	50	53	53	50	58	57	55	59	61	49	66	62	62	58	70	71	....	46	[a]54.3
Park River	Maximum	77	67	70	....	79	94	93	87	75	77	78	76	80	....	....	84	87	93	85	91	100	91	90	89	91	92	98	107	106	90	84	[c]86.9
	Minimum	54	40	39	....	40	58	58	59	48	58	58	50	50	....	....	52	58	57	62	58	59	65	46	71	59	60	56	73	65	50	54	[c]55.6
Pembina §§	Maximum	62	62	76	78	69	90	94	78	88	74	76	78	78	74	86	92	91	94	86	93	94	81	92	87	91	92	98	104	102	86	80	84.7
	Minimum	51	43	43	51	61	59	68	59	49	61	57	57	55	54	56	57	61	61	58	61	68	68	54	68	64	61	61	78	71	58	63	59.2
Power	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	70	70	77	85	77	93	98	83	83	87	80	79	79	77	86	88	92	96	90	92	101	97	97	93	91	92	103	104	101	86	78	87.9
	Minimum	52	35	32	52	55	51	54	51	53	61	56	45	48	50	49	50	56	64	54	63	66	56	47	62	62	51	63	79	67	41	54	54.2
Wahpeton §§	Maximum	71	69	71	81	85	86	92	86	82	80	79	80	78	79	76	84	86	88	93	96	95	89	91	92	94	91	94	109	101	88	86	86.2
	Minimum	49	41	39	50	64	55	60	68	57	62	60	47	57	56	51	52	55	58	66	56	68	63	56	67	70	66	65	74	71	58	56	58.6
Washburn	Maximum	78	78	80	83	78	92	97	86	81	89	89	84	78	78	86	81	90	95	92	94	97	93	95	94	97	97	104	107	99	85	80	88.9
	Minimum	50	50	43	55	65	55	60	59	61	62	53	52	48	64	52	65	60	65	55	67	70	68	55	75	75	70	65	76	67	68	49	60.6
Watford	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Westhope	Maximum	68	70	80	80	80	95	98	84	86	85	80	79	80	76	83	89	93	92	91	91	100	89	97	80	85	92	102	98	85	85	79	86.2
	Minimum	50	37	38	53	58	58	57	43	54	53	51	47	46	43	45	53	54	60	53	59	62	55	51	65	62	54	61	75	64	44	48	53.3
Williston	Maximum	70	72	80	84	80	94	92	83	95	84	81	78	79	78	80	87	96	91	95	95	95	87	101	82	94	95	106	96	90	85	71	86.7
	Minimum	51	39	52	56	56	55	59	52	68	62	52	54	47	55	48	54	66	60	61	62	63	53	67	62	67	54	77	72	50	48	50	57.5
Willow City	Maximum	72	66	75	80	73	87	90	76	80	82	76	77	73	71	75	82	89	91	85	86	98	79	90	83	84	80	100	98	91	82	75	82.1
	Minimum	53	33	32	56	58	53	62	50	51	60	53	46	47	49	49	53	53	64	53	58	62	57	45	63	59	52	60	71	63	59	50	53.4
Zap	Maximum	73	70	79	86	78	93	97	87	88	88	83	84	82	78	80	95	94	95	95	98	95	94	100	92	96	98	107	103	91	84	76	89.0
	Minimum	50	35	40	55	50	47	60	54	62	59	45	65	45	46	48	47	57	61	63	68	78	68	54	68	69	68	67	74	67	44	55	57.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

AUGUST, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 29, 1917.

Departure of the Mean Temperature from the Normal, August, 1917.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., AUGUST, 1917. No. 8.

GENERAL SUMMARY.

For the accomplishment of outdoor work, such as the harvesting of grain and early threshing, the weather was quite favorable, but for the development of late grain, hay and pastures, it was decidedly unfavorable. The precipitation was, with but one exception (1894, with 0.38 inch), the lowest in the climatological history of the State for August. Light to heavy frosts were reported from all parts of the State, but no serious damage resulted. At the close of the month nearly all small grain, except late flax, was harvested. Rye threshing was practically completed, and the threshing of wheat, oats, etc., was well under way. The second crop of alfalfa was generally a failure, due to lack of sufficient moisture. Fall plowing was also retarded by dryness of the soil. Pastures were exceptionally poor, and the hay crop will be the lightest for many years.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 29.95 inches. The highest was 30.39 inches at Bismarck, Burleigh County, on the 9th; the lowest was 29.55 inches at Williston, Williams County, on the 21st.

TEMPERATURE.

The mean temperature for the State was 65.2°, or 0.2° below the normal, and 0.8° lower than the mean for August, 1916. The highest mean reported was 70.5° at Park River, Walsh County; the lowest was 60.6° at Hansboro, Towner County. The highest temperature reported was 105° at Marstonmoor, Stutsman County, on the 18th; the lowest was 25° at the same station on the 29th. The greatest monthly range of temperature was 80° at Marstonmoor, Stutsman County; the least was 52° at Park River, Walsh County. The greatest daily range was 58° at Howard, Divide County, on the 29th. Usually the highest temperature occurred on the 17th, and the lowest on the 28th or 29th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 57 per cent, the average at 7 a. m. being 75 per cent, and at 7 p. m. 39 per cent.

PRECIPITATION.

The average precipitation for the State was 0.82 inch, or 1.46 inches below the normal, and 1.93 inches less than the average for August, 1916. The greatest monthly amount reported was 3.40 inches at Lisbon, Ransom County; there was none at Orange, Adams County. The greatest amount recorded in any twenty-four consecutive hours was 3.40 inches at Lisbon, Ransom County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 4. Practically all of the precipitation occurred in the form of scattered showers. Particularly stormy periods were the 4th, 8-9th, 15th, 18th to 22d, and the 31st. Late sown grain and pastures were badly in need of moisture at the close of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 9.0 miles. The greatest wind movement was 7,230 miles at Devils Lake, an average of 9.7 miles per hour; the least was 5,647 miles at Moorhead, Minn., an average of 7.6 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 50 miles per hour from the northwest at Bismarck on the 22d.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 17, partly cloudy days 10, and cloudy days 4.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	67.3	+1.9	105	24	2.29	+0.01	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	0.38	−1.90	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.07	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	0.2	105	25	0.82	−1.46	4	17	10	4	nw.

Climatological Data for August, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.					Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	
Amenia	Cass	954	21	65.2	−1.0	94	17†	34	29	44	1.41	−1.67	1.07	0	3	21	4	6	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	66.4	+0.5	99	21	35	28	48	0.93	−1.45	0.73	0	3	20	7	4	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	66.2	+1.3	98	3	31	9	52	1.49	−0.56	0.81	0	5	21	7	3	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	65.0	−3.1	99[a]	21	31	9†	53[a]	0.61	−1.12	0.48	0	3	24	7	0	nw.	C. L. Hall.
Bierman	Slope	.....	1	67.8	.....	97	19	39[a]	9	40[a]	0.96	.....	0.44	0	5	17	7	7	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	66.6	−1.5	95	17	38	28	41	1.37	−0.61	0.57	0	8	19	6	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	64.4	+1.3	98	17	34	28	48	0.95	−1.02	0.40	0	10	16	9	6	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	62.2	.....	94	3	31	28	53	1.51	.....	1.03	0	5	24	3	4	.....	G. H. Phelps.
Bowman	Bowman	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Workman.
Buford	Williams	1,944	38	66.8[a]	−0.1	96[a]	21	34[a]	9	44[a]	T.	−1.32	T	0	0	.....	.....	.....	nw.	P. Elmore.
Cando	Towner	1,488	16	65.9[a]	+2.1	98[a]	17	29[a]	28	48[a]	0.77	−1.60	0.58	0	4	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	5	66.2	.....	99	3	35	9	42	0.20	.....	0.06	0	5	14	17	0	nw.	A. W. Evens.
Colgate	Steele	1,177	3	66.5	.....	104	17	29	29	55	1.36	.....	0.65	0	4	7	21	3	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	0.10	−2.47	0.10	0	1	29	2	0	w.	S. Friswold.
Crosby	Divide	1,954	10	63.8	+0.1	89	17	36	28	36	0.92	−1.39	0.60	0	5	15	9	7	w.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	64.4	−0.7	96	17	36	28	39	1.12	−1.64	0.84	0	7	18	7	6	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	65.6	−1.0	97	4	30	9	43	1.43	0.59	0.89	0	4	23	0	8	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	18	63.9	−1.0	95	17	30	28	50	0.69	−1.65	0.69	0	1	21	9	1	.....	Geo. Michel.
Dunseith	Rolette	1,682	21	63.4	−0.1	92	21	33	28	50	0.84	−1.39	0.50	0	5	9	14	8	nw.	J. G. Lamont.
Eckman	Bottineau	.....	12	61.4	−1.9	98	17	27	28	49	1.14	−1.19	0.48	0	5	22	7	2	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	66.0	−0.4	96	21	34	28	42	1.01	−1.38	0.94	0	3	2	25	4	nw.	O. A. Thompson.
Energy††	McLean	.....	5	.....	.....	.....	.....	.....	.....	.....	0.56	.....	0.34	0	3	12	14	5	nw.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	1.25	.....	0.65	0	4	21	9	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	63.4	.....	99	17†	30	28	53	0.85	.....	0.32	0	4	26	5	0	nw.	G. T. Seymour.
Forman	Sargent	1,249	25	66.2[a]	−1.4	93[a]	17†	32	9	46	0.70	−2.27	0.57	0	7	11	17	3	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	68.0	+1.9	94	17	36	29	38	0.40	−2.52	0.32	0	2	22	8	1	s.	F. O. Alin.
Garrison	McLean	1,901	22	64.7	−1.1	97	17	33	28	44	0.77	−1.12	0.40	0	2	7	22	2	nw.	G. L. Robinson.
Grafton	Walsh	827	25	63.6	−0.7	97	17	30	29	44	0.83	−1.87	0.30	0	7	20	3	8	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	64.4	−0.4	98	17	36	29	44	1.58	−1.05	1.20	0	7	23	4	4	s.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	65.6	.....	99	17	33	28†	45	0.75	.....	0.27	0	3	17	11	3	se.	G. H. Leick.
Granville	McHenry	1,504	10	65.4[a]	+1.5	95[a]	17	34[a]	28	45[a]	0.58	−1.78	0.49	0	3	.....	.....	.....	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	62.8	+0.2	94	20	30	28	50	0.52	−1.62	0.52	0	1	23	6	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	60.6[j]	.....	93[j]	21	32[j]	28	52[j]	1.00	.....	0.30	0	5	.....	.....	.....	.....	C. E. Blackorby.
Hettinger	Adams	2,253	9	66.4	−0.6	102	3	34	9	44	0.94	−0.51	0.44	0	5	20	5	6	nw.	A. J. Ogaard.
Hillsboro	Traill	901	11	65.5	−1.4	99	17	35	29	45	0.25	−2.84	0.16	0	3	16	12	3	nw.	F. E. Mayall.
Howard	Williams	2,275	10	64.7	+1.3	96	17†	30	29	58	0.05	−1.63	0.03	0	2	8	19	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	66.2	0.0	100	17	35	29	47	1.31	−1.40	0.75	0	4	22	2	7	sw.	S. Calvelage.
Lakota	Nelson	1,579	16	63.0[c]	−0.2	96[c]	17	31[c]	28	55[c]	1.30	−1.18	0.51	0	7	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	63.3	−0.6	97	17†	31	28	45	0.38	−1.69	0.28	0	2	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	61.8	+0.1	95	21	32	28	50	1.59	−1.12	0.56	0	10	24	3	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	64.3	+0.3	98	17	38	28†	39	0.47	−2.51	0.20	0	5	14	9	8	.....	G. G. Graham.
Lisbon	Ransom	1,091	13	65.4	−1.1	94	14†	33	29	44	3.40	+1.24	3.40	0	1	22	3	6	nw.	W. S. Adams.
McHenry	Foster	1,509	7	64.8	.....	100	17	36	29	46	0.49	.....	0.29	0	2	20	11	0	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	64.5	+1.3	96	17	37	28	56	1.08	−0.49	0.50	0	3	12	17	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	65.3	.....	89	17†	37	28†	39	0.46	.....	0.32	0	4	17	10	4	nw.	R. D. Markland.
Maddock	Benson	.....	2	64.2	.....	98	17	33	28†	47	0.44	.....	0.24	0	3	3	23	5	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	66.0	.....	96	17	37	28	40	0.89	.....	0.46	0	6	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	65.3	+1.1	96	17	35	28	45	1.04	−1.31	0.40	0	4	19	7	5	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.60	0	2	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	64.5	.....	96	3	33[a]	9	43[a]	0.44	.....	0.14	0	6	16	8	7	nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	64.0[l]	.....	105[a]	18	25[c]	29	52[c]	0.46	.....	0.38	0	3	21	8	2	nw.	H. H. McCumber.
Mayville	Traill	975	21	66.5	+0.5	101	17†	32	31	46	0.56	−2.67	0.44	0	3	19	7	5	.....	W. C. Gould.
Melville	Foster	1,590	19	65.8[c]	−0.3	98[c]	26	40[c]	29	45[c]	0.40	−1.75	0.20	0	4	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	1.24	.....	0.88	0	4	18	7	6	nw.	Hj. Edman.
Minot	Ward	1,557	21	64.0	+1.8	96	3†	29	28	51	1.14	−1.10	0.76	0	8	22	3	6	nw.	W. I. Faris.
Minto	Walsh	820	24	65.4	+0.8	98	17	35	28†	45	0.37	−2.27	0.15	0	6	18	7	6	ne.	C. M. Evans.
Mott	Hettinger	2,424	10	65.0	−1.0	100	3	32	9	53	0.21	−1.59	0.10	0	5	11	10	10	se.	O. H. Opland.
Napoleon	Logan	1,955	25	65.4	−0.8	100	17	29	28	50	0.84	−1.67	0.39	0	6	25	3	3	nw.	C. J. Hoof.
New England	Hettinger	2,400	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,163	12	66.0	−0.4	100	3	37	8	44	0.24	−1.57	0.17	0	5	23	8	0	nw.	J. Christiansen.
Orange ††	Adams	2,586	8	65.6	.....	98	3	31	9	48	0.00	.....	0.00	0	0	7	20	4	nw.	T. F. Young.
Oriska	Barnes	1,270	12	67.9	+2.3	98	18	35	29	43	0.12	−2.55	0.09	0	2	9	22	0	s.	J. J. Taylor.
Park River	Walsh	998	13	70.5[c]	+5.0	96[c]	17	44[c]	2†	44[c]	0.73	−1.73	0.48	0	5	.....	.....	.....	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.25	0	2	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	43	65.6	+1.7	98	17	39	28	46	1.10	−1.28	0.42	0	6	10	18	3	sw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	1.79	.....	1.35	0	5	21	10	0	nw.	C. Frank.
Sanish	Mountrail	2,200	.....	67.2	.....	98	17	35	9	50	0.53	.....	0.35	0	4	17	5	9	nw.	E. H. Senechal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.87	0	2	29	1	1	ne.	T. C. Taylor.
Steele	Kidder	1,857	20	67.8	+1.5	100	21	38	9	43	0.74	−1.54	0.38	0	5	18	13	0	w.	H. S. Wood.
Taylor	Stark	2,493	1	65.7	.....	96	3	35	9	41	0.60	.....	0.20	0	5	13	11	7	nw.	H. Lentz.
Towner	McHenry	1,482	15	65.6	+1.3	96	17	32	28	46	0.78	−1.55	0.51	0	4	16	13	2	nw.	B. Bagley.
Wahpeton	Richland	962	23	66.4	−1.0	94	17†	37	29	41	0.82	−2.41	0.38	0	9	15	11	5	se.	F. E. Smith.
Walhalla	Pembina	966	10	65.2	+0.8	98	17†	34	28	41	0.79	−1.82	0.32	0	5	8	21	2	nw.	Ivan Lee.
Washburn	McLean	1,734	18	68.2	+0.9	96	21	36	28	48	0.60	−0.69	0.55	0	2	10	21	0	nw.	J. T. McCulloch.
Watford	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. Johnson.
Westhope	Bottineau	1,508	11	64.6	+0.6	97	17	30	28	48	1.24	−1.03	0.70	0	6	15	13	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	66.2	−1.7	95	16	40	10	43	0.21	−1.10	0.12	0	4	15	16	0	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	61.2	2.6	92	21	28	28	45	0.28	−1.67	0.28	0	1	10	21	0	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	66.0	.....	100	3	34	27†	51	0.54	.....	0.32	0	6	12	15	4	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	66.4	+0.5	94	17	41	29	38	0.77	−2.33	0.37	0	6	21	8	2	nw.	U. S. Weather Bureau.
Averages				65.2	−0.2	105	18	25	29	58	0.82	−1.46	3.40	0	4	17	10	4	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for August, 1917.

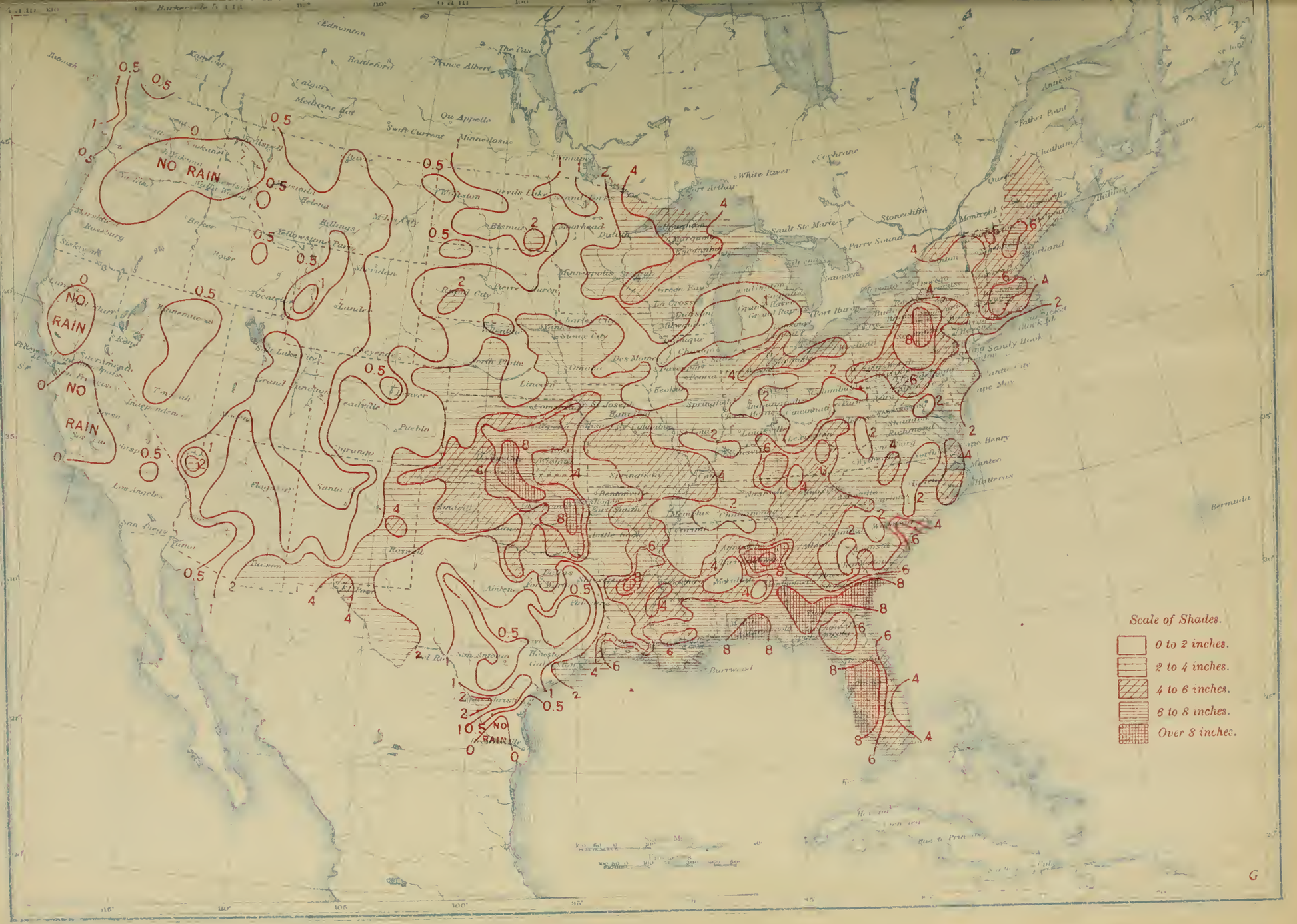
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red				.32	T.										T.	T.		1.07		T.	T.											1.41
Ashley	Missouri						T.					.15							.05							.73							0.93
Beach	Lit. Missouri				.23			T.				.21						T.		.19	.05		T.									.81	1.49
Berthold Agency	Missouri				.08			T.	T.							T.		T.			T.		.05							T.	.48	0.61
Bierman	Lit. Missouri				.03				T.			.44									.18		.11									.20	0.96
Bismarck ***	Missouri			.09	T.			.04				.02				.57	T.	.44		.15	T.	.02				T.					T.	.04	1.37
Bottineau ‖ ‖	Mouse	T.	T.		.05	.03		.05	.40	.08					.05			.06					.20		.02							.01	0.95
Bowbells ‖ ‖	Mouse				.25	.03			1.03													.09		.11								1.51
Bowman	Grand																																
Buford	Missouri				T.				T.			T.									T.		T.									T.	
Cando	Sheyenne				.03				.58					.06				.10					T.									0.77
Carson	Heart							.03									.06		.02	.04												.05	0.20
Colgate	Sheyenne				.62				.07					T.	T.				.65			T.	.02			T.	T.				T.	T.	1.36
Cooperstown	Sheyenne																															.10	0.10
Crosby	Mouse			T.	.21			.60						T.	.04				.05				T.								.02	T.	0.92
Devils Lake ***	Sheyenne	T.		.01	.10				.84									.02					.04		T.						.03	.08	1.12
Dickinson ‖ ‖	Heart								.01			T.						T.	.89		.38											.15	1.43
Donnybrook	Mouse				T.				.69																						T.		0.69
Dunseith	Mouse				.05				.50															.24		.03						.02	0.84
Eckman	Mouse				.09		.03		.48													.46	.08										1.14
Edgeley	James											.03				.94						T.										.04	1.01
Energy	Missouri				T.											.14	T.	T.		.08	T.		T.								T.	.34	0.56
Epping	Missouri				.35				.15													.65	.10										1.25
Fessenden ‖ ‖	James				.32	T.			.27							.05		.21						T.									0.85
Forman	Sheyenne						T.									.57			.02	.03			.02				.02				.01	.03	0.70
Fullerton	James														.08	.32										T						T.	0.40
Garrison	Missouri					T.														.40	T.		T.									.37	0.77
Grafton ‖ ‖	Red				.09				.30	.25								.15						T.	.01						.01	.02	0.83
Grand Forks	Red			.05					.24							T.			1.20				.05	.01							.01	.02	1.58
Grand Rapids	James															.30			.18		T.					.27						T.	0.75
Granville	Mouse								.49												.05											.04	0.58
Hannah	Pembina								.52																								0.52
Hansboro	Red			.05				.05	.30														.45		.15								1.00
Hettinger	Grand								.10				.44					.11	.05		T.	.24										T.	0.94
Hillsboro	Red				.16				.04										.05				T.										0.25
Howard	Missouri			T.	.03	T.	T.	T.	.02			T.	T.	T.		T.	T.	T.	T.	T.	T.	T.		T.							T.		0.05
Jamestown ‖ ‖	James	.01			.75											.20						.35											1.31
Lakota	Sheyenne				.39				.51									.05					.11	.17							.05	.02	1.30
Lamoine	Missouri															.10		.28													T.	T.	0.38
Langdon ‖	Pembina	.11			.10				.05	.53						.04								.50	.02	.15					.01	.02	1.59
Larimore ‖	Red				.10				.01	.15										.20				.01									0.47
Lisbon ‖	Sheyenne												T.			3.40		T.	T.							T.		T.				T.	3.40
McHenry	James			.29						.20								T.													T.		0.49
McKinney	Mouse					.15			.50														T.										1.08
McLeod	Sheyenne								T.						.04	.32			.04													.06	0.46
Maddock	Sheyenne								.24															.05								.15	0.44
Mandan ‖ ‖	Missouri				.02				.04			T.	.02			.33		T.	.46		.02	T.											0.89
Manfred	Sheyenne				.35				.40									T.					T.								.14	.15	1.04
Manning	Knife																					.07										.60	0.67
Marmarth	Lit. Missouri				T.							.14							.07	T.	T.	.06	.06						.01			.10	0.44
Marstonmoor	James				.03			T.	T.							.38			T.			T.	T.			T.					T.	.05	0.46
Mayville	Red		.44					.10												.02													0.56
Melville	James			.05					.20									.05			T.											.10	0.40
Milnor	Red														.88	.12			.15													.09	1.24
Minot ‖	Mouse	.01			.04			.05	.76	.10												.14		.01								.03	1.14
Minto	Red				.10				.15										.05					.02							.02	.03	0.37
Mott	Cannon Ball							.04	.02			.03						.02			.10												0.21
Napoleon ‖	Missouri								.03				.12			.21			.39			.02	.07										0.84
New England	Cannon Ball																																
New Salem	Heart							.04				.01				.01		.17			T.		T.									.01	0.24
Orange	Cannon Ball																																0.00
Oriska	Sheyenne													T.	.09	.03		T.					T.				T.					T.	0.12
Park River	Red				.48								T.							.16				.02	.05		T.					.02	0.73
Parshall	Missouri															.25											.14						0.39
Pembina ‖	Red				.20	.42				.26							T.							.10		.04		T.		.08		1.10
Power	Sheyenne																																
Powers Lake	Missouri				.20			.15	1.35												.04											.05	1.79
Sanish	Missouri				.05																.35		.03									.10	0.53
Searing	Lit. Missouri																		.01												.87		0.88
Steele	Missouri															.15		T.	.13			.03									.05	.38	0.74
Taylor	Heart							.20	T.			.04					.09	T.	T.			.18										.09	0.60
Towner	Mouse						T.		.51									.07				.04	.16										0.78
Wahpeton ‖	Red	.16						.02					T.			.38	.03	.03	.01				.07			.02						.10	0.82
Walhalla	Pembina	.02			.32				.50				T.	.10	T	T.									T.						.05	T.	0.79
Washburn	Missouri															.55															.05		0.60
Watford	Lit. Missouri																																
Westhope	Mouse	.01			.09	.25			.70														.13									.06	1.24
Williston ***	Missouri			T.	.12				T										T.		T.	T.	.03								T.	.02	.04	0.21
Willow City	Mouse				T.				.28												T.		T.										T.	0.28
Zap	Knife				.03											.02					.11	.04	.02									.32	0.54
Moorhead, Minn ***	Red				.37											.05		.15	.08								.01					.11	0.77

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	76	78	85	79	76	79	76	68	80	86	77	84	87	93	92	85	94	89	94	82	94	85	75	79	88	78	75	73	78	76	62	81.
	Minimum...	49	44	48	57	49	44	45	50	41	45	43	50	58	55	55	49	63	62	65	49	52	60	56	49	46	49	44	41	34	38	53	49.
Ashley	Maximum...	75	81	85	78	78	79	73	66	75	81	70	83	86	90	85	87	96	92	92	95	99	84	75	80	92	91	71	73	77	88	70	82.
	Minimum...	48	48	53	63	48	46	46	50	38	38	52	50	50	53	61	52	62	59	49	56	51	64	53	43	52	57	48	35	37	54	53	50.
Beach	Maximum...	81	90	98	75	76	80	83	71	83	82	80	87	91	90	81	97	91	90	90	96	88	88	90	78	86	94	76	75	88	75	65	84.
	Minimum...	39	45	43	42	39	43	43	41	31	42	47	50	48	46	65	53	55	62	60	57	60	52	62	44	40	52	32	42	50	55	46	47.
Berthold Agency	Maximum...	75	87	98	81	85	79	73	70	73	85	..	85	91	91	88	95	93	93	95	94	99	79	72	72	90	75	66	66	79	79	70	°82.
	Minimum...	45	38	54	55	45	40	47	51	31	32	47	41	54	54	53	49	57	56	54	49	64	56	48	39	47	41	41	31	44	44	50	47.
Bismarck	Maximum...	79	82	91	76	74	72	70	63	77	81	69	84	87	92	87	89	95	88	90	87	95	73	76	81	94	84	72	73	80	81	66	80.
	Minimum...	48	47	59	57	49	50	47	48	40	40	55	47	53	59	59	56	62	57	61	54	63	62	54	56	56	50	43	38	46	60	47	52.
Bottineau §§	Maximum...	77	78	94	73	75	82	79	69	76	81	84	87	90	88	83	88	98	88	89	83	97	69	75	84	83	75	72	72	85	78	68	81.
	Minimum...	44	42	47	55	43	45	44	49	40	41	45	47	54	54	56	47	52	57	57	41	48	56	49	42	47	55	37	34	41	51	48	47.
Bowbells §§	Maximum...	70	81	94	70	71	82	71	65	73	78	76	84	89	82	78	90	93	88	85	84	93	84	76	83	80	76	68	70	85	80	65	79.
	Minimum...	43	41	41	52	40	45	48	44	40	41	43	45	60	52	50	41	47	50	49	46	48	57	45	41	47	46	38	31	35	51	45	45.
Carson	Maximum...	80	85	99	80	75	70	70	65	75	80	85	88	92	90	90	95	88	90	90	95	75	74	70	80	95	82	72	80	80	80	65	81.
	Minimum...	45	55	59	58	38	52	50	50	35	44	45	52	70	59	55	60	58	50	52	55	50	49	50	44	54	40	39	45	50	55	46	50.
Colgate	Maximum...	89	82	88	74	77	82	78	76	80	86	88	95	95	100	96	88	104	97	99	82	99	86	80	85	93	92	81	77	84	77	68	86.
	Minimum...	38	39	42	56	43	36	45	47	40	41	50	49	48	50	55	42	54	52	53	52	59	57	52	48	42	44	42	37	29	53	45	46.
Crosby	Maximum...	78	80	88	88	71	80	72	62	70	75	75	80	78	78	75	85	89	84	80	81	87	72	73	80	78	66	66	69	81	71	63	79.
	Minimum...	44	48	61	54	43	44	55	50	44	47	51	49	58	54	54	57	55	55	57	52	57	58	49	46	50	50	45	36	55	58	46	51.
Devils Lake	Maximum...	68	73	87	74	71	79	75	63	73	79	78	85	87	88	82	82	96	86	87	80	94	77	71	78	85	83	69	68	79	76	66	78.
	Minimum...	48	44	52	56	49	46	46	48	43	46	50	51	57	59	55	44	61	57	52	43	66	58	53	45	45	50	43	36	45	58	45	50.
Dickinson	Maximum...	79	83	97	89	76	71	78	72	74	79	76	85	89	91	88	93	94	86	92	92	92	89	73	81	91	83	70	72	84	79	74	83.
	Minimum...	41	45	59	55	46	45	50	50	30	36	55	42	48	55	56	50	50	50	57	50	56	61	47	39	51	44	41	40	44	51	50	48.
Donnybrook	Maximum...	72	81	93	71	71	82	75	69	73	78	79	84	89	85	81	90	95	89	87	94	85	75	83	78	83	73	69	70	84	75	66	80.
	Minimum...	43	40	48	58	43	44	47	45	41	43	48	48	58	55	48	42	60	50	61	44	55	46	42	66	46	44	39	30	49	54	46	47.
Dunseith	Maximum...	69	72	88	87	70	78	75	65	72	76	80	83	86	82	78	80	91	82	81	76	92	88	70	78	81	78	66	70	89	78	65	78.
	Minimum...	47	40	51	55	46	37	55	52	52	45	45	47	50	58	56	46	58	56	52	45	55	52	48	44	49	45	41	33	39	59	49	48.
Edgeley	Maximum...	76	79	86	84	73	71	71	69	76	83	78	85	89	92	86	82	95	89	92	82	96	86	76	89	91	94	79	72	77	83	73	82.
	Minimum...	48	46	45	59	46	38	40	50	42	42	45	49	48	57	60	50	58	57	57	50	59	59	54	47	54	57	46	34	35	50	53	49.
Fessenden §§	Maximum...	73	78	89	74	74	77	75	63	75	80	76	88	90	91	87	89	99	88	92	84	99	78	74	82	89	91	72	69	82	79	66	81.
	Minimum...	45	42	49	54	46	43	37	48	37	38	47	42	53	53	56	42	50	53	51	42	46	58	50	40	44	43	34	30	33	50	49	45.
Forman	Maximum...	77	81	82	..	81	72	73	73	78	84	71	85	91	90	88	84	93	89	92	85	89	86	75	77	93	89	74	75	83	79	79	a82.
	Minimum...	40	40	40	..	40	40	42	38	32	43	40	46	58	63	61	55	60	65	61	54	62	64	57	50	49	57	50	44	44	54	55	a50.
Fullerton	Maximum...	79	85	80	78	73	67	70	71	79	78	80	82	86	89	86	80	94	90	92	89	93	84	74	78	89	90	72	71	75	87	74	81.
	Minimum...	58	66	60	47	50	47	50	56	54	58	60	54	48	59	59	54	56	70	57	54	59	60	54	53	53	56	53	51	36	52	54	54.
Garrison	Maximum...	77	82	84	81	74	76	76	69	76	80	75	85	88	89	83	90	97	89	89	97	94	77	77	83	89	78	71	70	82	76	67	81.
	Minimum...	45	39	52	52	42	40	42	49	36	36	50	44	55	57	55	49	57	59	56	48	62	61	49	44	48	47	39	33	46	58	50	48.
Grafton §§	Maximum...	72	73	87	75	72	79	75	69	75	81	87	86	90	94	84	81	97	86	88	78	96	84	72	78	81	83	70	68	75	73	72	80.
	Minimum...	49	40	44	56	49	38	44	51	42	45	43	51	51	57	50	43	53	57	53	48	51	52	57	49	40	45	45	37	30	40	51	47.
Grand Forks	Maximum...	71	73	85	76	72	76	73	63	76	80	82	84	87	94	84	78	98	86	87	76	93	82	72	75	79	84	70	67	77	73	68	78.
	Minimum...	50	48	46	64	50	41	50	42	42	46	47	49	53	56	56	45	54	61	56	52	60	60	60	48	47	54	46	38	36	55	44	50.
Granville	Maximum...	60	65	83	70	75	75	75	70	75	80	87	88	92	87	75	90	95	87	..	89	90	82	76	83	89	70	72	72	83	72	70	a79.
	Minimum...	48	45	58	52	45	50	45	50	48	45	52	60	60	55	60	45	58	50	..	65	58	62	50	43	47	48	50	34	63	56	43	a51.
Hannah	Maximum...	75	78	93	81	76	81	86	64	76	79	85	90	91	87	80	88	90	91	92	94	89	80	76	81	84	79	68	67	74	73	80	81.
	Minimum...	43	38	45	52	43	39	44	40	41	40	42	41	43	56	43	38	47	52	54	57	52	50	51	43	47	46	39	30	36	38	40	44.
Hansboro	Maximum...	70	72	90	82	72	80	78	66	..	..	..	..	..	..	..	..	..	..	90	80	93	83	70	80	80	79	69	68	66	66	66	a77.
	Minimum...	47	41	39	55	46	38	40	45	..	..	..	..	..	..	..	..	..	..	38	36	60	50	51	45	40	45	41	32	36	55	46	b44.
Hettinger	Maximum...	84	86	102	74	77	67	80	66	75	82	76	83	87	94	90	92	94	88	90	91	90	85	79	82	93	96	72	75	83	95	74	83.
	Minimum...	41	42	60	57	40	57	53	50	34	40	54	41	46	55	52	54	56	63	51	51	51	62	42	41	55	46	38	38	44	54	49	48.
Howard	Maximum...	76	90	95	85	72	83	82	68	77	82	82	82	92	96	92	95	96	93	88	92	96	72	79	86	84	77	77	74	88	74	65	83.
	Minimum...	40	57	40	52	37	44	43	54	34	40	52	54	55	49	49	50	62	54	55	56	52	50	37	42	50	43	32	44	30	35	44	46.
Jamestown §§	Maximum...	77	80	89	77	75	78	75	67	77	84	78	88	91	94	89	86	100	89	95	85	95	80	75	81	90	91	72	73	80	79	65	82.
	Minimum...	49	46	53	60	51	43	45	51	41	44	46	51	58	59	63	50	53	60	58	50	51	51	50	48	51	51	46	37	35	41	54	49.
Lakota	Maximum...	70	74	85	75	71	80	76	68	73	79	81	84	88	90	84	..	96	88	..	89	95	83	69	..	84	85	75	69	79	75	69	c79.
	Minimum...	48	39	54	57	47	38	41	49	39	41	43	48	50	49	52	..	41	50	..	39	60	56	54	..	41	46	42	31	35	53	50	c46.
Lamoine	Maximum...	75	75	80	75	72	76	72	61	75	80	72	80	88	91	85	88	97	86	91	84	97	76	71	83	93	88	71	70	80	76	64	79.
	Minimum...	44	45	40	55	45	52	47	47	36	35	49	48	47	51	58	46	58	55	54	45	59	48	48	45	45	45	36	31	37	56	46	46.
Langdon	Maximum...	65	68	84	71	68	79	78	65	70	77	83	86	90	89	77	81	90	80	84	76	95	81	66	75	81	77	63	64	80	76	76	77.
	Minimum...	45	39	47	54	45	41	45	50	40	44	47	48	54	55	52	40	51	53	44	40	45	60	55	45	47	48	41	32	36	46	49	46.
Larimore §§	Maximum...	71	73	83	74	70	79	74	62	72	80	81	84	86	91	87	80	98	82	91	76	94	85	71	76	82	83	71	67	77	72	78	79.
	Minimum...	46	44	50	60	49	42	50	50	40	48	46	50	52	54	52	44	60	56	55	48	59	60	54	48	48	47	44	38	38	54	52	49.
Lisbon §§	Maximum...	77	79	85	78	76	72	74	75	77	80	75	84	92	94	86	83	94	89	92	82	89	86	76	76	85	87	72	73	77	78	63	80.
	Minimum...	51	46	51	60	52	43	47	43	45	41	44	50	52	51	54	58	57	61	57	51	54	63	53	49	48	50	46	42	33	46	52	50.
McHenry	Maximum...	72	76	88	76	71	75	78	78	68	80	75	80	86	92	85	87	100	87	93	83	97	79	78	81	75	88	61	69	79	76	64	79.
	Minimum...	47	45	42	55	46	52	46	48	39	42	50	47	45	54	56	57	58	72	60	44	55	55	43	43	58	56	41	42	36	54	48	49.
McKinney	Maximum...	70	80	95	84	73	85	78	70	74	80	81	87	92	85	81	90	96	88	87	83	97	79	78	81	75	88	61	69	79	76	64	81.
	Minimum...	46	45	39	54	44	39	44	46	42	42	45	46	55	55	54	65	60	50	53	41	40	55	50	40	47	45	40	37	46	50	50	47.
Maddock	Maximum...	71	76	89	88	72	78	76	73	74	79	78	85	89	88	85	87	98	92	92	88	95	93	73	80	88	86	71	71	80	79	72	82.
	Minimum...	47	40	49	58	48	36	36	51	38	39	44	42	49	50	52	42	52	52	51	42	62	51	51	40	46	50	39	33	33	58	51	46.
Marmarth	Maximum...	82	84	96	75	74	71	82	60	73	80	78	81	87	91	88	91	90	87	91	88	93	79	77	83	92	77	70	76	84	81	65	81.
	Minimum...	45	45	..	53	38	50	53	46	33	45	47	41	45	49	54	50	51	60	53	52	50	57	45	41	49	48	37	49	45	49	44	a47.
Minot §§	Maximum...	75	82	96	73	74	81	77	65	74	80	79	86	91	88	84	92	96	90	88	89	95	75	77	84	89	77	72	72	85	77	69	81.
	Minimum...	45	40	45	55	43	45	45	48	40	40	44	46	55	58	51	45	47	54	56	48	44	61	48	39	48	45	38	29	34	51	50	46.
Mott	Maximum...	80	96	100	81	77	72	78	71	75	82	81	83	86	92	91	92	95	89	96	90	94	74	78	82	78	77	82	85	89	81	70	83.
	Minimum...	37	43	55	44	39	47	49	49	32	37	48	38	49	51	55	49	56	55	51	52	50	53	44	47	43	40	46	47	50	44	36	46.
Napoleon §§	Maximum...	80	86	92	78	77	71	80	70	77	85	70	86	91	94	88	92	100	90	93	88	98	80	77	83	94	92	74	75	82	80	65	83.
	Minimum...	46	42	44	60	46	44	35	50	36	35	45	46	52	51	57	50	63	55	55	50	52	61	50	40	40	51	40	29	38	50	50	47.
New England	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum...	80	91	100	77	76	72	75	69	72	83	85	84	80	86	88	87	93	95	94	86	96	80	78	82	95	80	78	85	84	86	72	83.
	Minimum...	42	58	60	53	46	39	40	37	44	42	47	50	47	55	57	59	61	60	58	49	60	42	49	47	54	44	38	42	40	42	45	48.
Orange	Maximum...	84	85	98	84	77	71	75	67	75	87	74	82	86	91	74	92	94	88	91	90	95	79	78	81	93	85	72	74	82	85	73	82.
	Minimum...	43	49	60	60	42	46	53	50	31	41	55	43	44	51	53	54	58	59	51	53	55	58	49	44	48	42	35	45	34	56	40	48.
Oriska	Maximum...	68	78	85	78	70	79	78	74	79	82	87	87	92	94	87	82	97	98	94	80	94	94	75	79	91	89	78	72	78	78	68	82.
	Minimum...	49	46	43	55	50	70	70	50	44	42	50	62	63	54	60	46	55	65	66	48	58	62	55	49	50	52	38	57	35	52	53	53.
Park River	Maximum...	77	73	88	85	..	78	76	72	..	80	83	84	90	92	85	82	96	..	92	87	76	96	92	72	77	81	84	70	79	77	73	c82.
	Minimum...	49	44	44	60	..	47	46	50	..	45	49	54	51	65	55	45	58	..	58	59	46	57	58	58	49	45	50	44	57	56	53	c59.
Pembina §§	Maximum...	68	72	88	74	72	84	84	68	78	81	88	91	92	88	78	88	98	88	82	84	94	82	68	78	79	72	68	66	68	71	68	79.
	Minimum...	52	48	51	62	51	48	51	51	48	51	53	51	58	61	52	42	60	58	56	50	58	58	59	50	51	52	42	39	41	53	52	51.
Power	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum...	71	80	94	92	73	81	78	75	75	81	79	87	91	90	83	90	96	93	89	84	94	92	75	81	88	80	71	70	84	80	76	83.
	Minimum...	47	40	48	57	46	42	43	51	41	41	47	45	56	48	55	45	59	55	57	42	60	59	51	40	48	48	38	32	40	62	51	48.
Wahpeton §§	Maximum...	77	78	82	81	76	73	72	75	77	83	75	76	80	92	87	81	94	94	93	84	91	93	77	78	89	90	75	73	78	83	66	81.
	Minimum...	50	45	52	58	50	45	53	44	40	44	48	56	54	54	58	51	57	62	57	53	57	57	58	52	51	57	48	38	37	52	56	51.
Washburn	Maximum...	77	82	93	90	74	77	71	65	77	87	83	88	90	92	86	89	95	90	94	90	96	91	78	83	94	82	74	72	82	81	71	83.
	Minimum...	48	44	57	65	46	48	50	47	40	39	50	50	54	57	60	54	59	60	62	50	63	60	63	45	70	54	54	36	46	54	52	52.
Watford	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum...	69	84	94	74	72	83	79	68	74	83	86	91	91	85	81	92	97	92	86	89	96	70	75	84	82	71	70	72	78	80	68	81.
	Minimum...	46	44	51	54	45	40	44	46	43	41	49	48	53	52	56	48	59	50	54	41	56	56	56	40	51	46	40	30	42	55	49	47.
Williston	Maximum...	74	82	92	72	73	79	76	65	76	80	80	84	89	88	82	95	92	87	88	92	94	79	77	84	85	70	69	74	81	71	64	80.
	Minimum...	45	45	65	53	45	48	54	48	42	40	58	52	58	54	55	52	60	61	59	57	61	57	48	46	55	49	42	42	55	52	47	51.
Willow City	Maximum...	65	74	81	75	68	79	75	63	71	77	78	83	88	82	86	82	83	84	83	92	77	72	79	82	76	67	67	67	81	75	65	77.
	Minimum...	46	39	49	56	45	37	41	51	38	77	78	40	48	51	41	55	53	49	40	43	52	51	50	37	46	50	34	28	38	60	56	45.
Zap	Maximum...	80	84	100	82	75	78	76	74	72	84	88	93	92	91	89	94	97	90	95	92	95	85	77	84	92	77	72	73	85	79	66	84.
	Minimum...	40	39	67	55	39	41	44	44	31	33	50	42	48	69	55	51	52	56	59	50	59	65	44	39	50	42	34	34	45	58	48	47.

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
G

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEPTEMBER, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
OCTOBER 30, 1917.

Departure of the Mean Temperature from the Normal, September, 1917.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., SEPTEMBER, 1917. No. 9.

GENERAL SUMMARY.

Seasonable temperature prevailed over the State during the month, and although there was more than the usual cloudiness, the precipitation was deficient. Farm work made excellent progress, harvesting of all kinds, including late flax, was practically completed, and threshing made good advancement. Corn suffered from killing frosts, the seed value of this crop being nil in the eastern portion of the State. Grain yields generally were of excellent grade, and the yields were usually somewhat above expectations. Pastures were short at the close of the month, though livestock was in good condition.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.06 inches. The highest was 30.69 inches at Moorhead on the 10th; the lowest was 29.53 inches at Williston on the 23d.

TEMPERATURE.

The mean temperature for the State was 56.4°, or exactly the normal, and 1.3° higher than the mean for September, 1916. The highest mean reported was 59.7° at Forman, Sargent County; the lowest was 53.2° at Fessenden, Wells County. The highest temperature reported was 97° at Dickinson, Stark County, on the 23d; the lowest was 16° at Cando, Towner County, on the 10th. The greatest monthly range of temperature was 78° at Cando, Towner County; the least was 50° at Bowbells, Burke County, and at Melville, Wells County. The greatest daily range was 61° at Sanish, Mountrail County, on the 28th. Generally the highest temperature was recorded on the 23d, and the lowest on the 10th, 26th or 30th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 72 per cent, the average at 7 a. m. being 85 per cent, and at 7 p. m. 6 per cent.

PRECIPITATION.

The average precipitation for the State was 1.08 inches, or 0.56 inch below the normal, and 0.54 inch less than the average for September, 1916. The greatest monthly amount reported was 3.79 inches at Forman, Sargent County; the least was 0.05 inch at Bierman, Slope County. The greatest amount recorded in any twenty-four consecutive hours was 2.05 inches at Hillsboro, Traill County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 5. No snowfall was reported from any portion of the State. The distribution of precipitation was quite even, both geographically and throughout the month. Particularly stormy periods were the 2d, 8th, 11th to 19th, inclusive, and the 26th to 28th, inclusive.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of four stations, was 8.5 miles. The greatest wind movement was 6,832 miles at Devils Lake, an average of 9.5 miles per hour; the least was 5,073 miles at Moorhead, Minn., an average of 7.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 44 miles per hour from the northwest at Williston on the 4th.

SUNSHINE AND CLOUDINESS.

There was less than the usual sunshine; the average number of clear days was 12, partly cloudy days 9, and cloudy days 9.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.28	−1.36	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	3.01	+1.37	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	95	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.

Climatological Data for September, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	56.0	−1.3	89	23	23	10	53	1.78	−0.27	0.72	0	6	8	8	14	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	58.2	+0.9	88	23	30	20	52	0.80	−0.27	0.29	0	5	19	5	6	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	58.2	+2.1	93	22†	22	27	50	0.15	−1.42	0.12	0	2	12	7	11	nw.	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	23	54.3	−3.3	90	23	23	30	47	0.93	−0.55	0.79	0	4	16	5	9	se.	C. L. Hall.
Bierman	Slope		1	57.2[a]		91[a]	23	33[a]	26	48	0.05		0.05	0	1				se.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	57.6	+0.5	90	23	31	30	41	1.75	+0.56	1.00	0	5	12	9	9	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	56.1	+0.4	91	22	25	10	51	0.44	−1.35	0.20	0	6	9	9	12	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	54.0[c]		79	8	29[f]	10	40[f]	1.44		0.90	0	3	13	7	10		G. H. Phelps.
Bowman	Bowman		3																	W. H. Workman.
Buford	Williams	1,944	38	57.6[a]	+1.8	93[a]	21†	27[a]	26	48[a]	0.92	−0.06	0.56	0	3	13	8	9	e.	P. Elmore.
Cando	Towner	1,488	16	58.4[f]	+2.9	94	22	16	10	50	0.46	−1.09	0.23	0	4					E. T. Judd.
Carson	Grant	2,500	5	56.9		92	23	26	26	40	0.81		0.25	0	5	10	17	3	se.	J. W. Evens.
Colgate	Steele	1,177	3	57.9		88	23	25	27	51	1.84		0.76	0	11	9	6	15	se.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7								1.45	−0.29	0.60	0	5	15	11	4	nw.	S. Friswold.
Crosby	Divide	1,954	10	55.0	+1.4	82	23	29	26	33	1.02	−0.35	0.83	0	3	18	4	8	s.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	55.9	+0.3	89	23	24	10	40	0.83	−0.56	0.30	0	8	9	7	14	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	57.0	+0.4	97	23	25	26†	54	0.20	−0.89	0.12	0	2	17	1	12	se.	J. C. Thysell.
Donnybrook	Ward	1,760	18	55.1[a]	+0.3	91[a]	22	26[a]	26	43	0.75	−1.27	0.57	0	4				nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	55.8	+1.0	89	22	21	10	46	0.43	−1.22	0.24	0	5	13	12	5	nw.	J. G. Lamont.
Eckman	Bottineau		12	54.8[f]	−0.7	91[k]	23	19[b]	10†	57[k]	0.54	−0.76	0.27	0	5	15	6	9	s.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	56.4	−1.1	89	23	27	30	47	0.89	−0.93	0.28	0	7	6	14	10	s.	O. A. Thompson.
Energy ‡‡	McLean		5								0.80		0.30	0	4	10	13	7	se.	N. W. Solenberger.
Epping	Williams	2,224	9								0.81		0.50	0	5	17	5	8	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	53.2		91	23	24	10	50	1.96		0.74	0	8	14	8	8	se.	G. T. Seymour.
Forman	Sargent	1,249	25	59.7[a]	+0.6	86[a]	23	34[a]	30	38[a]	3.79	+1.97	1.95	0	13	10	9	11	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	57.4	+1.0	85	23	30	2	42	0.78	−1.51	0.78	0	1	12	13	5	nw.	F. O. Alin.
Garrison	McLean	1,901	22	57.1	+0.2	91	22†	27	30	45	0.82	−0.53	0.40	0	4	11	11	8	se.	G. L. Robinson.
Grafton	Walsh	827	25	54.6	−1.3	86[a]	17	18	10	48[a]	0.69	−0.66	0.35	0	7	17	3	10	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	25	56.1	+0.1	87	23	22	10	43	0.88	−1.12	0.43	0	8	11	14	5	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	57.7		88	23	27	30	45	2.89		1.34	0	7	13	6	11	s.	G. H. Leick.
Granville	McHenry	1,504	10	55.7	+1.3	92	22	26	10	50	0.87	−0.52	0.35	0	5	14	9	10	s.	W. A. Christianson.
Hannah	Cavalier	1,568	12																	J. Moffatt.
Hansboro	Towner	1,597	9	54.2	−0.3	91	24	18	10	49	0.65	−1.54	0.25	0	4	14	13	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	55.6	−2.6	91	24	26	20†	50	0.09	−1.59	0.05	0	3	13	5	12	se.	A. J. Ogaard.
Hillsboro	Traill	901	11	57.0	−2.0	86	23	20	10	45	2.83	+0.10	2.05	0	10	7	18	5	se.	F. E. Mayall.
Howard	Williams	2,275	10	55.0	+1.4	89	23	25	27	45	1.15	−0.31	0.51	0	5	6	13	11	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	54.8	−1.9	91	23	27	10	49	0.43	−1.11	0.16	0	5	6	0	24	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	55.2	+0.1	87	23	21	9	44	1.06	−0.13	0.43	0	6	6	17	7	se.	C. R. Pettes.
Lamoine	Kidder	1,936	9																	E. V. Virgin.
Langdon	Cavalier	1,615	21	54.8	+1.4	90	23	23	30	43	0.77	−1.34	0.19	0	7	18	3	9		R. T. Burke.
Larimore	Grand Forks	1,134	22	55.2	+0.3	84	17	25	10	44	1.04	−0.61	0.40	0	7	11	8	11		G. G. Graham.
Linton	Emmons	1,711		56.4		90	24	29	20	42	1.44		0.80	0	3					Father Seiler.
Lisbon	Ransom	1,091	13	56.8	−0.9	86	23	27	10	44	2.67	+0.45	1.25	0	11	13	3	14	nw.	W. S. Adams.
McClusky	Sheridan	1,943									0.79		0.65	0	2					R. M. Rishworth.
McHenry	Foster	1,509	7	55.4		90	22	28	10	46	1.53		0.35	0	5	20	6	4	se.	P. E. Trudeau.
McKinney	Renville	1,640	23	55.8	+2.1	91	23	24	30	51	0.79	−0.83	0.50	0	4	8	16	6	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	57.0		87	23	28	10	38	2.39		1.15	0	10	13	5	12	se.	R. D. Markland.
Maddock	Benson	1,604	2	56.0		90	23	19	10	49	2.17		0.84	0	7	4	16	10	se.	F. P. Cowing.
Mandan	Morton	1,644	3	57.0		90	23	30	30	42	1.97		0.90	0	4					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	56.2	+0.3	89	23	25	9	44	1.58	+0.12	0.61	0	8	17	3	10	se.	P. B. Anderson.
Manning	Dunn	2,450	2								0.40		0.40	0	1					A. J. Bretzlaff.
Marmarth	Slope		8	55.5		91	23	29	26	49	0.17		0.06	0	3	12	12	6	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	57.2		90	23	23[a]	30	57[a]	1.62		0.76	0	6	10	11	9	nw.	H. H. McCumber.
Mayville	Traill	975	21	58.6	+2.1	88	23	22	10	46	2.12	−0.44	1.38	0	5	14	5	11		W. C. Gould.
Melville	Foster	1,590	19	56.6[b]	+0.4	82[c]	22	32[b]	10†	33	1.96	+0.62	0.60	0	5				se.	J. P. Kidder.
Milnor	Sargent	1,097	5								2.77		1.84	0	6	10	11	9	s.	Hj. Edman.
Minot	Ward	1,557	21	54.8	−2.2	96	23	24	30	53	1.24	−0.42	0.45	0	7	8	9	13	se.	W. I. Faris.
Minto	Walsh	820	24	56.8	+0.4	86	17	21	10	42	0.74	−1.37	0.22	0	8	13	6	11	se.	C. M. Evans.
Mott	Hettinger	2,424	10	56.4	+0.2	92	22	23	26	56	0.41	−1.37	0.29	0	3	9	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	56.0	−0.9	92	23	25	30	46	1.07	−0.23	0.45	0	6	14	7	9	s.	C. J. Hoof.
New England	Hettinger	2,400	23	56.4	+0.5	93	23	26	26	54	0.12	−1.07	0.10	0	2	11	10	9	nw.	J. M. Connolly.
New Salem	Morton	2,165	12	56.0	−1.3	93	23	29	26	48	0.68	−0.83	0.34	0	5	13	11	6	e.	J. Christiansen.
Orange ‡‡	Adams	2,586	8	57.2		92	23	23	26	54	0.23		0.23	0	1	8	13	9	se.	T. F. Young.
Oriska	Barnes	1,270	12	56.2	−2.0	86	17	22	10	44	1.95	+0.25	1.12	0	6	10	15	5	se.	J. J. Taylor.
Park River	Walsh	998	13	57.3[a]	+0.4	85[a]	17†	24[a]	10	41[a]	0.68	−0.94	0.25	0	7				se.	O. J. Sieker.
Parshall	Mountrail		2								1.26		0.60	0	3	13	13	4	nw.	J. A. Johnson.
Pembina	Pembina	789	43	56.7	+3.1	90	17	24	9	38	0.30	−1.55	0.20	0	2	8	18	4	se.	C. W. Shumaker.
Power	Richland	1,020	25																	J. H. Radcliffe.
Powers Lake	Burke	2,205	2								1.42		0.59	0	6	15	11	4	se.	C. Frank.
Sanish	Mountrail	2,200		58.4		96	28	25	30	61	0.88		0.73	0	2	16	3	11	se.	E. H. Senechal.
Searing	McKenzie										0.53		0.38	0	2	19	2	9	se.	T. C. Taylor.
Steele	Kidder	1,857	20	57.8	+0.4	91	23	32	26	31	0.83	−0.37	0.25	0	7	13	15	2	se.	H. S. Wood.
Taylor	Stark	2,493	1	57.3		93	22	28	26	44	0.45		0.29	0	3	18	5	7	sw.	H. Leutz.
Towner	McHenry	1,482	15	57.8	+2.1	94	22	23	10	47	0.69	−1.25	0.22	0	5	10	13	7	se.	B. Bagley.
Wahpeton	Richland	962	23	57.6	−1.1	85	17	25	10	45	2.00	−0.08	0.37	0	11	12	6	12	se.	F. E. Smith.
Walhalla	Pembina	966	10	56.6	+0.7	87	23	22	10	44	0.54	−1.41	0.33	0	6	13	13	4	w.	Ivan Lee.
Washburn	McLean	1,734	18	57.8	−0.8	90	23†	32	26	47	0.74	−0.53	0.42	0	3	3	22	5	e.	J. T. McCulloch.
Watford	McKenzie																			M. E. Johnson.
Westhope	Bottineau	1,508	11	56.5	+1.9	93	23	25	10	51	0.61	−0.82	0.24	0	7	7	15	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	38	56.5	−3.0	92	22	27	30	49	0.72	−0.19	0.48	0	4	12	10	8	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	53.8	−0.6	89	23	20	10	45	0.30	−1.46	0.21	0	2	8	13	9	se.	M. A. Ostby.
Zap	Mercer	1,800	4	56.6		93	23	23	30	51	0.82		0.39	0	5	12	11	7	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	57.8	+1.2	89	23	27	10	40	1.16	−1.14	0.24	0	10	11	12	7	se.	U. S. Weather Bureau.
Averages				56.4	0.0	97	23	16	10	61	1.08	−0.56	2.05	0	5	12	9	9	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods: Energy, Underwood: Grand Forks, University: Orange, Thunder Hawk, S. D.

Daily Precipitation for September, 1917.

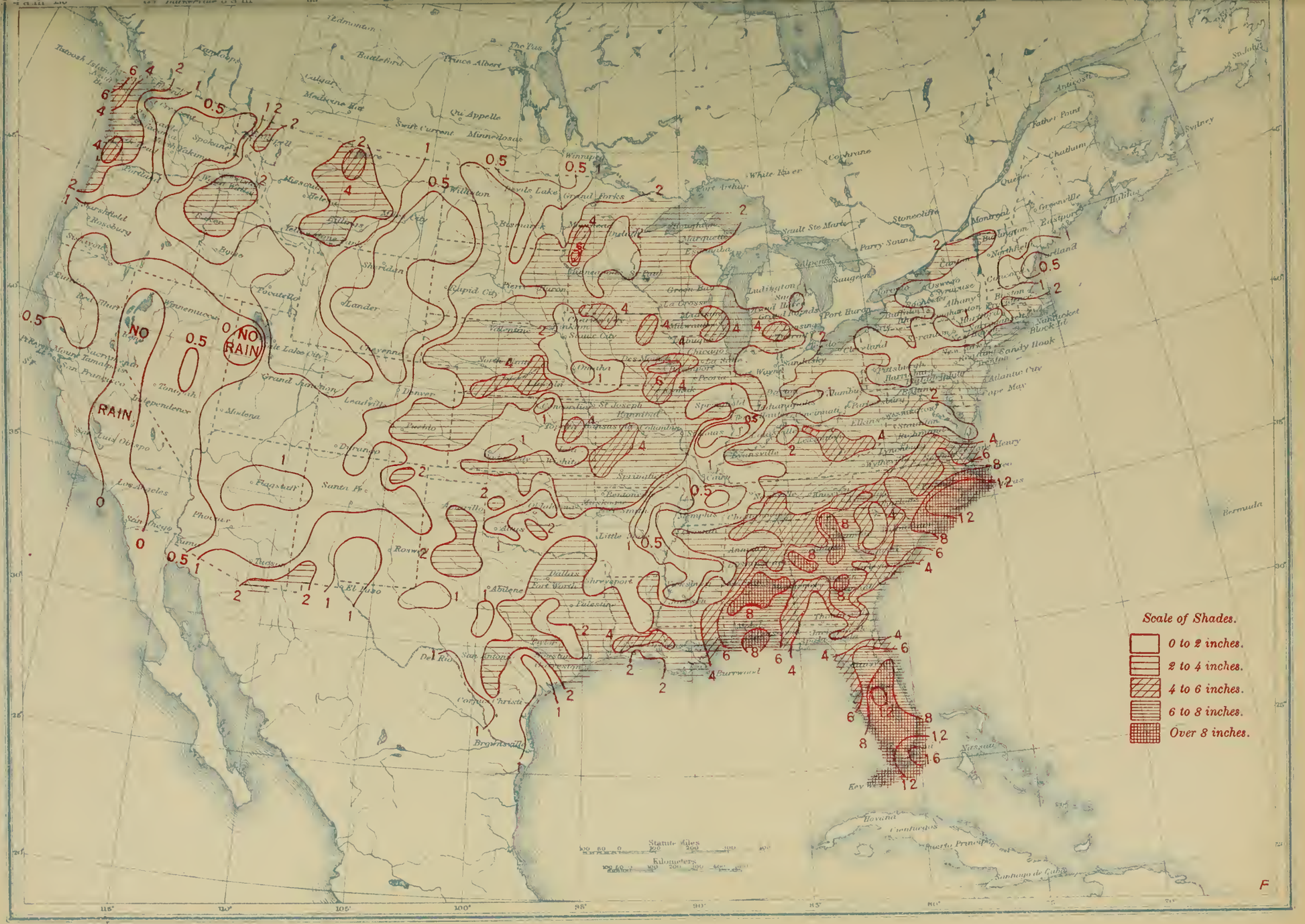
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red	.04		.40				T.					T.	.02		T.	.72		T.	.57							.03		T.	T.			1.78
Ashley	Missouri		.07										.04		.25			.29		.15								T.					0.80
Beach	Lit. Missouri														.12													.03					0.15
Berthold Agency	Missouri		T.						.06					T.	.79		.03		.05													0.93
Bierman	Lit. Missouri											.05																					0.05
Bismarck ***	Missouri		T.				.01					.45			1.00		.01		.28								T.					1.75
Bottineau ‖ ‖	Mouse						T.		.01				.05		T.	.15	.02	T.									.01		.20			0.44
Bowbells ‖ ‖	Mouse												.90			.38													.16			1.44
Bowman	Grand																																
Buford	Missouri				.11				T.			.25			.56	T.																0.92
Cando	Sheyenne								.06							.23		.07										.10					0.46
Carson	Heart											.07			.22		.25		.21						.06								0.81
Colgate	Sheyenne		.20	.14			.01		.01				.07	T.		.30	.02		.31	.76								.01	.01				1.84
Cooperstown	Sheyenne		.40						.10						.20				.60							.15							1.45
Crosby	Mouse		.14									T.			.83										T.			.05					1.02
Devils Lake ***	Sheyenne		.08						.04				.04	T.	.06	.04	T.	.21	.30						T.			.06	T.				0.83
Dickinson ‖ ‖	Heart												.08			12		T.		T.													0.20
Donnybrook	Mouse		.10		.04											.57												.04					0.75
Dunseith	Mouse												.01	.01		.24	.01											.16					0.43
Eckman	Mouse		.05						.03		.05				.27											T.		.14					0.54
Edgeley	James		.10				.06						T.	.02	.08	.15			.20	.28													0.89
Energy	Missouri		.12						T.						.30	.13			.25														0.80
Epping	Missouri		.02						.14	T.		.10		.05	.50																		0.81
Fessenden ‖ ‖	James			.29		T.	T.	T.	T.	.27			.10	.15	T.	.74		.13		.15								.13					1.96
Forman	Sheyenne		.03					.78					.10	.02	.01	.01	.59	.05	.02	1.95						.13		.05	.05				3.79
Fullerton	James					T.													T.	.78					T.			T.	T.				0.78
Garrison	Missouri								.03			T.	.40		.09	.30												T.					0.82
Grafton ‖ ‖	Red												.09	.02	.01		.05			.35						.10			.07				0.69
Grand Forks	Red				.01				.03				.16	T.		.09	.05		.43	.06					T.			.05					0.88
Grand Rapids	James		.65					.28					.10		.10	.27	.15			1.34													2.89
Granville	Mouse		.24						.14				.08			.35												.06					0.87
Hannah	Pembina																																
Hansboro	Red															.20	.10									.10		.25					0.65
Hettinger	Grand			T.	T.	T.					T.	T.	T.	T.	.05	.03	T.	T.		.01													0.09
Hillsboro	Red			.17			.02		.08	.01			.10	.09		.27		.02		2.05						.02							2.83
Howard	Missouri	T.	T.	T.					.20	.10		.03	.31	T.		.51				T.							T.						1.15
Jamestown ‖ ‖	James	.07		.16									T.			.08				.10					.02								0.43
Lakota	Sheyenne		T.						T.				.43		T.	.15			.30	.06								.08	.04				1.06
Lamoine	Missouri																																
Langdon ‖ ‖	Pembina					.22		T.	.07				T.			.02		.14		.19							.03		.10				0.77
Larimore ‖ ‖	Red	.04											.10	.20		T.	.20			.40									.05	.08			1.04
Linton	Missouri				T.											.60	.80								.04								1.44
Lisbon ‖ ‖	Sheyenne	.10		.19				.30	.05		T.		.10	.09	T.	.10	.20			1.25	.02					.27	T.		T.	T.			2.67
McClusky	Missouri		.14												.65																		0.79
McHenry	James		.25						.35				.28					.35	T.									.30					1.53
McKinney	Mouse								.06				.06			.50	T.	T.								T.	T.	.17					0.79
McLeod	Sheyenne		.30	.03				.20	.07						T.	.35			.03	1.15					T.	.12		.12	.02				2.39
Maddock	Sheyenne			.30					.06				.14			.84			.63									.05	.15				2.17
Mandan ‖	Missouri			.02									.64			.90				.41													1.97
Manfred	Sheyenne		.17	.10					.20				.33		.05	.61			.04									T.	.05					1.58
Manning	Knife														.40																		0.40
Marmarth	Lit. Missouri			T.	T.	.05				.06		T.			.06										T.			T.					0.17
Marstonmoor	James		.20					T.					.03		.76			.36	.11	.16								T.	T.				1.62
Mayville	Red			.12								.15		.07			.40			1.38													2.12
Melville	James		.48				T.		T.				.32		.18			.60	.38									T.					1.96
Milnor	Red		.20					.37					.14		T.				T.	1.84						.13		.09	T.				2.77
Minot ‖ ‖	Mouse			.30		.01				.11			.35			.45				.01									.01				1.24
Minto	Red								.04				.22	.01		.10			.09	.22					T.			.04	.02				0.74
Mott	Cannon Ball											.10			.29					.02								T.					0.41
Napoleon ‖ ‖	Missouri			.15				.03					.04			.45		.29		.11													1.07
New England	Cannon Ball											.10								.02													0.12
New Salem	Heart								T.			T.		.02	.34			.04	.22	.06													0.68
Orange	Cannon Ball														.23																		0.23
Oriska	Sheyenne			.12	T.		T.	.08					.20			.21	.22		1.12				T.										1.95
Park River	Red			T.	T.				T.				.11	.02		.09	.05	T.	.25	.13				T.				.03					0.68
Parshall	Missouri		.14										.60		.52																		1.26
Pembina ‖	Red												T.						.10	.20									T.				0.30
Power	Sheyenne																																
Powers Lake	Missouri		.40						.11				.09		.15	.59												.08					1.42
Sanish	Missouri		T.						T.			.15			.73																		0.88
Searing	Lit. Missouri											.38			.15																		0.53
Steele	Missouri		T.	.06				T.				T.	.10		.25	.15		.05	.02	.20													0.83
Taylor	Heart										T.	.08	T.	.08	.29				T.	T.								T.					0.45
Towner	Mouse		T.	.15					T.				.09			.16										T.		.07		.22			0.69
Wahpeton ‖ ‖	Red			.28				.37	.02				.12	.04				.34		.36	.16					.08	.12		.11				2.00
Walhalla	Pembina					.05	T.		T.				T.		.01	.02	T.		.33								T.	.05	.08				0.54
Washburn	Missouri		.28												.42				.04														0.74
Watford	Lit. Missouri																																
Westhope	Mouse					.03							.17			.24	.02									.02	.10	.03					0.61
Williston ***	Missouri				T.				.14			.08	.02		.48	T.			T.														0.72
Willow City	Mouse					T.			T.							.21									T.		.09	T.					0.30
Zap	Knife		.02									.02			.39	.37			.02														0.82
Moorhead, Minn ***	Red		.16	.07				.24	T.				.23			.07			.05	.10					.02	.16		.27					1.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	75	53	70	74	71	70	75	63	55	68	78	81	67	73	64	72	85	78	56	71	72	77	89	77	56	62	71	64	68	67	....	70.1
	Minimum	37	33	48	42	44	38	41	47	35	23	25	36	52	50	52	56	56	54	50	37	35	37	49	55	50	45	28	31	39	32	....	41.9
Ashley	Maximum	69	57	67	76	68	75	82	74	80	80	80	79	75	68	66	73	80	76	63	67	75	85	88	87	64	67	75	76	76	68	....	73.9
	Minimum	36	36	44	40	48	41	45	35	45	42	44	53	45	40	58	58	60	55	46	30	37	36	36	56	42	33	35	35	38	....	....	42.6
Beach	Maximum	65	65	70	87	80	78	75	75	76	73	77	75	65	74	70	77	80	65	60	78	92	93	93	78	65	65	59	70	78	79	....	74.6
	Minimum	38	45	40	48	47	50	45	48	48	45	50	46	38	40	52	36	49	43	26	36	42	48	49	42	34	30	22	36	40	40	....	41.8
Berthold Agency	Maximum	56	52	60	70	70	71	63	65	46	61	66	66	64	63	60	70	71	71	59	71	71	79	90	82	80	72	69	60	59	70	....	66.9
	Minimum	37	36	45	49	44	43	40	45	35	35	39	51	44	44	55	42	56	54	39	35	37	48	43	59	42	26	42	30	34	23	....	41.7
Bismarck	Maximum	68	58	68	76	69	76	83	63	52	66	73	71	64	62	67	74	79	63	66	69	80	86	90	81	54	64	70	73	71	72	....	70.3
	Minimum	40	35	46	47	48	48	50	42	36	37	45	50	50	46	58	58	60	52	43	35	42	50	52	50	42	35	41	38	39	31	....	44.9
Bottineau §§	Maximum	66	67	71	74	72	76	80	51	56	66	75	74	68	65	60	79	82	70	69	75	80	91	91	82	58	62	60	65	67	69	....	70.7
	Minimum	30	33	45	47	44	47	46	42	33	25	31	45	49	48	51	55	56	50	41	34	36	40	50	58	35	35	35	34	34	33	....	41.5
Bowbells §§	Maximum	62	60	65	73	70	76	79	51	43	67	70	71	67	62	60	76	76	60	58	62	70	78	78	73	69	64	58	57	51	71	....	65.9
	Minimum	36	31	39	45	41	41	41	39	31	29	39	42	41	..	..	..	..	..	..	35	47	42	49	69	30	32	52	35	36	31	....	[a]39.7
Carson	Maximum	60	55	65	80	85	77	84	74	50	60	75	70	70	56	70	75	79	66	62	70	80	85	92	80	55	62	70	75	70	72	....	70.6
	Minimum	35	45	42	42	55	47	44	40	32	36	44	46	45	45	55	53	52	54	40	35	42	50	52	52	40	26	40	35	35	34	....	43.2
Colgate	Maximum	80	76	77	78	78	75	77	77	56	70	80	85	75	78	75	68	87	80	61	75	75	70	88	80	70	76	69	70	72	67	....	75.0
	Minimum	34	28	44	39	47	35	47	38	29	39	29	56	45	48	56	56	55	55	45	32	31	38	45	56	45	44	25	30	26	26	....	40.8
Crosby	Maximum	61	61	64	72	72	74	76	65	55	65	69	71	69	65	60	68	72	62	62	70	76	79	82	70	50	61	60	66	63	68	....	66.9
	Minimum	42	37	46	51	44	44	46	32	36	40	42	45	44	50	54	53	55	45	38	47	44	48	49	49	37	29	43	34	37	34	....	43.2
Devils Lake	Maximum	65	64	68	72	68	73	81	52	52	64	73	66	70	66	61	71	83	65	64	70	73	82	89	79	59	61	68	68	65	64	....	68.5
	Minimum	38	33	41	44	46	47	49	33	29	24	39	49	48	48	56	55	55	50	44	40	43	49	54	59	42	41	32	40	36	29	....	43.3
Dickinson	Maximum	62	63	79	86	84	85	82	77	53	65	73	71	71	60	67	78	78	83	63	76	88	93	97	89	63	66	69	74	69	69	....	74.4
	Minimum	39	39	40	47	40	45	45	40	35	38	36	46	39	47	52	36	40	54	37	30	38	39	47	50	40	25	36	29	34	25	....	39.6
Donnybrook	Maximum	64	61	65	72	70	76	78	70	78	66	70	70	68	63	60	74	74	66	72	..	80	91	89	78	68	63	66	71	66	71	....	[b]70.0
	Minimum	41	32	40	44	43	41	42	39	32	27	37	47	48	40	54	51	52	32	35	..	41	48	47	59	40	26	36	31	34	28	....	[b]40.2
Dunseith	Maximum	64	65	67	71	70	73	70	70	52	62	72	69	68	64	62	74	79	73	64	72	76	89	88	83	74	61	58	64	64	65	....	69.4
	Minimum	37	33	42	47	44	46	41	40	30	21	36	47	55	49	54	56	56	50	40	31	38	43	50	57	39	40	36	35	37	35	....	42.2
Edgeley	Maximum	72	60	67	78	70	75	84	74	54	55	76	77	68	68	64	72	84	76	65	65	70	78	89	80	65	61	75	75	70	67	....	71.1
	Minimum	38	34	45	34	49	40	48	45	35	30	37	45	45	39	46	58	54	55	47	32	34	42	42	57	42	35	33	40	39	27	....	41.6
Fessenden §§	Maximum	70	62	68	76	71	75	84	54	47	67	69	65	64	62	63	70	81	64	65	70	76	86	91	82	59	63	70	72	67	68	....	67.1
	Minimum	33	30	44	39	44	38	43	40	32	24	30	47	46	44	47	54	55	52	42	31	34	36	45	59	39	31	30	35	34	25	....	39.4
Forman	Maximum	..	69	70	78	73	74	81	79	55	66	78	79	67	67	66	79	84	81	72	65	72	81	86	81	68	60	73	70	66	65	....	[a]72.6
	Minimum	..	40	50	44	50	47	53	50	38	36	42	58	48	45	57	60	60	58	50	38	41	45	55	60	45	40	35	40	39	34	....	[a]46.8
Fullerton	Maximum	69	63	67	77	70	74	82	71	53	61	77	77	66	68	67	72	82	77	67	68	67	75	85	71	64	60	73	74	68	65	....	70.3
	Minimum	39	30	46	38	58	43	49	45	36	34	39	64	46	50	56	59	54	64	40	41	34	36	49	57	50	38	31	39	39	33	....	44.6
Garrison	Maximum	65	61	68	74	71	74	83	72	42	67	68	70	71	67	64	77	79	75	64	70	81	91	91	78	66	64	66	71	70	70	....	71.0
	Minimum	39	33	45	47	42	44	42	42	34	37	38	51	50	44	56	52	59	54	42	31	38	46	65	58	41	28	40	35	35	27	....	43.2
Grafton §§	Maximum	67	68	69	70	69	73	82	51	56	66	75	72	73	70	66	74	86	66	66	71	72	70	84	75	58	59	67	64	77	..	....	[a]69.5
	Minimum	35	31	37	35	41	32	42	43	24	18	30	40	50	51	55	55	53	54	47	30	35	38	49	57	46	45	26	30	37	28	....	39.8
Grand Forks	Maximum	68	67	68	70	68	70	82	57	55	65	76	77	60	71	65	73	85	75	62	70	70	70	87	78	68	56	66	63	64	61	....	68.9
	Minimum	37	33	43	43	44	38	50	41	30	22	34	53	52	53	52	60	56	54	48	36	32	50	53	58	49	39	32	40	37	29	....	43.3
Granville	Maximum	70	62	67	74	72	78	80	50	50	67	70	70	72	64	65	78	80	65	70	72	83	92	89	60	50	64	65	70	68	72	....	69.6
	Minimum	48	32	47	45	46	43	48	40	35	26	38	51	52	35	52	58	58	52	35	32	33	48	46	48	35	32	38	37	35	28	....	41.8
Hannah	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum	65	65	69	70	80	76	75	52	54	67	77	69	70	66	75	75	82	67	55	74	77	90	90	91	67	60	60	63	65	64	....	70.3
	Minimum	34	28	31	40	42	45	35	32	25	18	30	53	45	45	52	52	50	45	34	34	40	43	50	45	40	37	28	32	35	25	....	38.2
Hettinger	Maximum	74	68	70	68	85	72	81	83	66	45	60	78	74	74	62	74	71	80	76	65	73	86	88	91	80	60	67	75	75	70	....	73.0
	Minimum	35	44	40	45	41	46	43	40	34	40	43	43	41	49	34	35	36	52	39	26	35	36	42	51	32	27	33	30	31	26	....	38.3
Howard	Maximum	65	64	65	73	70	78	80	65	50	67	69	63	74	73	61	70	73	79	68	69	76	76	89	87	75	65	66	63	68	67	....	70.3
	Minimum	32	32	30	40	37	40	40	40	33	33	40	45	48	40	45	52	45	50	44	35	35	42	44	42	42	37	25	42	34	30	....	39.8
Jamestown §§	Maximum	74	69	67	77	70	75	86	62	51	66	78	72	61	68	70	74	87	74	61	70	70	80	91	74	52	62	78	74	70	68	....	71.0
	Minimum	40	32	47	40	41	40	46	38	36	27	34	41	38	35	37	38	38	47	48	35	35	47	49	48	44	37	32	32	32	28	....	38.7
Lakota	Maximum	65	62	68	72	70	80	82	61	52	64	76	74	71	68	61	72	83	66	71	72	71	75	87	76	77	67	69	63	64	64	....	70.1
	Minimum	31	27	27	39	45	39	36	37	21	28	32	50	50	46	58	57	50	51	31	33	40	46	46	60	57	39	30	39	35	28	....	40.3
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Langdon	Maximum	65	66	66	67	65	74	77	67	55	67	72	71	71	67	68	72	85	73	63	75	74	85	90	79	63	59	55	55	60	66	....	69.1
	Minimum	34	29	35	42	45	40	45	40	25	25	33	41	51	51	53	53	52	51	44	33	32	47	47	52	40	40	33	40	35	23	....	40.4
Larimore §§	Maximum	68	70	66	70	61	71	81	50	52	64	76	75	67	70	64	70	84	71	61	69	69	70	80	76	58	59	68	61	64	61	....	67.5
	Minimum	38	31	44	42	46	40	48	38	28	25	32	53	52	52	52	58	50	60	48	32	36	46	50	58	46	44	30	47	36	28	....	43.0
Lisbon §§	Maximum	70	68	69	74	71	73	76	63	56	68	79	78	64	67	68	73	85	74	56	67	74	77	86	78	63	60	75	70	69	68	....	70.6
	Minimum	40	38	40	37	46	48	50	51	37	27	37	47	56	48	50	56	58	56	48	33	35	35	43	53	45	39	31	37	39	28	....	42.9
McHenry	Maximum	74	60	63	73	68	72	69	60	45	65	70	69	67	65	68	75	84	75	65	70	71	90	75	69	68	70	70	65	66	64	....	68.8
	Minimum	45	40	33	45	42	38	45	41	31	28	42	45	48	50	54	55	64	45	34	35	36	44	51	50	38	40	30	35	40	34	....	41.9
McKinney	Maximum	65	64	69	76	70	67	79	69	50	66	70	69	71	65	65	74	74	71	69	72	78	86	91	80	68	77	65	76	72	69	....	71.6
	Minimum	44	29	44	42	42	37	39	44	33	26	40	50	50	40	52	47	57	30	30	42	40	58	44	30	35	37	35	37	35	24	....	40.0
Maddock	Maximum	66	64	67	73	74	75	83	78	52	65	73	72	66	67	64	72	81	79	64	69	73	89	90	83	78	61	68	69	67	66	....	71.6
	Minimum	35	27	44	43	45	38	45	40	32	19	32	48	47	45	55	57	54	50	42	32	31	44	41	58	41	35	39	37	35	29	....	40.4
Marmarth	Maximum	64	70	69	86	70	81	74	67	53	70	79	63	78	67	57	75	77	72	65	76	88	89	91	74	55	65	70	72	67	77	....	72.0
	Minimum	35	40	49	48	39	43	43	43	34	36	39	50	41	49	43	34	41	43	31	31	39	43	49	46	32	29	36	30	30	30	....	39.0
Minot §§	Maximum	68	59	66	75	71	77	81	48	49	69	70	69	72	63	68	80	81	61	68	73	83	93	96	92	50	65	67	72	70	73	....	71.0
	Minimum	39	29	38	44	42	42	42	41	33	27	34	38	50	43	47	45	51	51	33	31	33	40	43	50	41	29	32	33	33	24	....	38.6
Mott	Maximum	76	62	68	74	77	78	83	70	72	74	67	60	68	66	70	77	83	78	70	79	87	92	86	82	61	71	70	73	72	75	....	74.0
	Minimum	41	44	37	44	42	46	43	38	40	40	43	32	38	36	42	35	48	45	40	27	33	36	50	50	40	23	26	28	37	36	....	38.7
Napoleon §§	Maximum	70	62	70	80	71	76	85	66	55	68	73	74	70	65	72	75	81	66	63	72	78	86	92	80	52	62	76	76	71	70	....	71.9
	Minimum	31	30	42	38	40	42	44	44	34	29	38	48	45	42	45	55	55	53	46	26	32	40	46	52	40	30	38	37	35	25	....	40.1
New England	Maximum	76	62	68	74	77	78	83	70	72	74	67	60	68	66	70	77	83	78	70	79	87	86	93	82	63	65	73	71	67	75	....	73.8
	Minimum	41	44	37	44	42	46	43	38	40	46	43	32	38	36	42	35	48	45	40	27	33	35	45	53	40	26	38	31	31	30	....	39.0
New Salem	Maximum	78	80	69	78	64	70	60	57	57	66	74	68	70	68	75	76	79	68	62	75	81	80	93	81	68	64	72	73	73	78	....	71.9
	Minimum	38	47	40	42	40	39	39	37	31	31	39	35	34	42	54	48	58	52	38	32	33	45	45	49	40	29	41	32	33	40	....	40.1
Orange	Maximum	67	61	70	81	83	80	85	83	58	58	80	75	76	68	72	76	81	70	64	71	84	89	92	85	65	65	77	78	71	76	....	74.7
	Minimum	32	37	41	45	43	43	40	38	32	39	42	43	47	48	49	37	48	53	42	25	41	35	48	54	40	23	36	27	35	25	....	39.6
Oriska	Maximum	70	65	68	72	72	71	81	71	53	65	79	73	63	68	62	69	86	76	74	70	69	71	81	76	68	60	60	75	74	64	....	70.2
	Minimum	38	32	48	36	46	39	49	44	34	22	35	56	49	48	56	60	54	48	52	33	36	46	45	45	46	43	31	35	32	30	....	42.3
Park River	Maximum	70	..	68	71	70	72	84	71	55	65	75	76	71	70	65	74	85	85	64	72	72	77	..	85	72	60	69	59	..	63	....	[a]71.1
	Minimum	36	..	36	37	47	40	46	43	28	24	38	57	52	55	55	58	54	55	45	38	39	46	..	51	46	45	28	46	..	29	....	[a]43.5
Pembina §§	Maximum	68	69	68	67	65	69	81	54	54	61	63	72	67	72	82	88	90	62	69	76	74	76	82	81	71	54	58	59	52	..	....	[a]69.1
	Minimum	39	34	32	41	48	41	49	54	24	26	39	57	48	52	56	61	58	58	48	38	36	47	49	58	51	44	31	44	36	31	....	44.3
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	66	66	69	77	75	78	81	79	52	67	74	70	69	66	66	78	82	79	69	70	79	94	92	89	88	65	65	70	67	70	....	73.7
	Minimum	40	30	44	44	44	43	41	42	33	23	38	50	54	48	56	58	55	52	33	23	36	49	50	52	42	40	37	34	34	27	....	41.8
Wahpeton §§	Maximum	72	70	70	74	73	72	74	68	65	69	76	74	65	68	69	82	85	65	59	67	64	76	84	67	58	58	60	63	58	63	....	68.9
	Minimum	36	35	50	47	55	42	49	54	38	25	37	46	53	55	55	58	63	57	54	39	40	46	61	56	47	45	33	40	39	30	....	46.2
Washburn	Maximum	66	66	68	74	72	76	71	54	60	68	69	71	67	65	74	79	80	75	79	70	76	88	90	90	70	61	68	73	71	78	....	72.3
	Minimum	46	39	45	46	46	48	49	36	38	36	43	51	56	45	56	57	54	38	39	35	39	41	50	46	45	32	41	35	37	34	....	43.4
Watford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	68	70	78	77	74	80	82	64	63	72	69	63	74	70	59	80	68	62	71	72	86	92	93	81	68	64	64	65	68	71	....	72.3
	Minimum	34	30	42	45	46	42	40	41	30	25	36	49	50	45	56	58	48	42	35	34	35	54	49	58	34	29	35	37	32	29	....	40.7
Williston	Maximum	62	60	65	78	67	76	80	56	49	68	70	74	72	60	66	75	74	64	67	77	87	92	91	73	56	65	65	69	67	76	....	70.0
	Minimum	38	44	46	47	42	45	41	43	40	37	46	51	43	50	56	50	57	44	35	38	45	51	47	43	35	29	44	38	38	27	....	43.0
Willow City	Maximum	64	65	68	72	75	73	77	47	52	63	72	70	66	63	59	75	79	66	65	72	78	80	89	82	56	60	67	64	64	67	....	68.1
	Minimum	32	28	44	43	45	40	37	42	29	20	32	48	53	45	54	56	51	48	32	28	33	47	44	60	41	34	31	33	29	26	....	39.5
Zap	Maximum	67	60	69	78	71	80	85	68	65	66	72	75	72	63	67	78	79	72	66	73	85	92	93	80	65	65	70	74	70	74	....	73.1
	Minimum	35	35	46	47	42	42	41	43	40	34	38	46	46	43	55	41	42	54	38	30	37	45	49	58	39	24	30	28	30	23	....	40.0

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
F

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

OCTOBER, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 26, 1917.

Departure of the Mean Temperature from the Normal, October, 1917.


Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency
Statute Miles
Kilometers
Edmonton
Battleford
Prince Albert
The Pas
Calgary
Medicine Hat
Swift Current
Minnedosa
Winnipeg
Havre
Williston
Devils Lake
Grand Forks
Billings
Miles City
Bismarck
Moorhead
Duluth
Yellowstone Park
Sheridan
Minneapolis
St Paul
Rapid City
Pierre
Huron
Chamberlain
Yankton
Sioux City
Valentine
Cheyenne
North Platte
Omaha
Des Moines
Lincoln
Denver
Leadville
Concordia
St Joseph
Hannibal
Topeka
Kansas City
Columbia
St Louis
Pueblo
Iola
Wichita
Dodge City
Springfield
Cairo
Amarillo
Oklahoma
Muskogee
Fort Smith
Bentonville
Albuquerque
Santa Fe
Flagstaff
Roswell
Altus
Little Rock
Memphis
Corinth
Nashville
Knoxville
Asheville
Chattanooga
Dallas
Fort Worth
Shreveport
Athens
Palestine
Meridian
Montgomery
Jackson
Birmingham
Atlanta
Augusta
Charleston
Savannah
Columbia
Wilmington
Raleigh
Hatteras
Bermuda
El Paso
Del Rio
San Antonio
Houston
Galveston
Port Arthur
New Orleans
Mobile
Pensacola
Corpus Christi
Brownsville
Key West
Havana
Cienfuegos
Santiago de Cuba
Port au Prince
Jamaica
Cochrane
White River
Sault Ste Marie
Parry Sound
Stonecliffe
Toronto
Port Hope
Kingston
Ottawa
Montreal
Burlington
Northfield
Portland
Boston
Providence
Worcester
Albany
Buffalo
Rochester
Syracuse
Ithaca
Binghamton
Scranton
Harrisburg
Philadelphia
Baltimore
Washington
Pittsburgh
Cleveland
Toledo
Detroit
Lansing
Grand Rapids
Saginaw
Ludington
Green Bay
La Crosse
Madison
Milwaukee
Racine
Chicago
Davenport
Peoria
Fort Wayne
Sandusky
Indianapolis
Terre Haute
Columbus
Dayton
Cincinnati
Parkersburg
Charleston
Lexington
Louisville
Evansville
Richmond
Lynchburg
Norfolk
Hatteras
Cape Henry
Duluth
Marquette
Escanaba
Sault Ste Marie
Port Arthur
Winnipeg
Devils Lake
Grand Forks
Moorhead
Bismarck
Williston
Havre
Swift Current
Medicine Hat
Calgary
Battleford
Prince Albert
The Pas
Edmonton
Kamloops
Tatoosh
Walla Walla
Spokane
Seattle
Tacoma
Portland
Roseburg
Eugene
Salem
Baker
Boise
Pocatello
Helena
Missoula
Yellowstone Park
Billings
Miles City
Sheridan
Rapid City
Pierre
Huron
Chamberlain
Yankton
Sioux City
Valentine
Cheyenne
North Platte
Omaha
Lincoln
Denver
Leadville
Grand Junction
Salt Lake City
Ogden
Winnemucca
Reno
Red Bluff
Mount Tamalpais
San Francisco
Sacramento
Tonopah
Independence
Fresno
Modena
Los Angeles
San Luis Obispo
Yuma
San Diego
Phoenix
Tucson
Santa Fe
Flagstaff
Roswell
Amarillo
Altus
Dodge City
Iola
Wichita
Springfield
Cairo
Bentonville
Muskogee
Fort Smith
Oklahoma
Albuquerque
Dallas
Fort Worth
Shreveport
Athens
Palestine
Taylor
Del Rio
San Antonio
Houston
Galveston
Corpus Christi
Brownsville
New Orleans
Meridian
Jackson
Mobile
Pensacola
Montgomery
Birmingham
Atlanta
Augusta
Charleston
Savannah
Columbia
Wilmington
Raleigh
Hatteras
Cape Henry
Norfolk
Lynchburg
Richmond
Lexington
Louisville
Evansville
Nashville
Knoxville
Asheville
Chattanooga
Memphis
Corinth
Little Rock
Springfield
Cairo
Bentonville
Muskogee
Fort Smith
Oklahoma
Amarillo
Altus
Roswell
Santa Fe
Albuquerque
Flagstaff
Los Angeles
San Diego
Phoenix
Yuma
Tucson
El Paso
Del Rio
San Antonio
Houston
Galveston
Corpus Christi
Brownsville
New Orleans
Mobile
Pensacola
Meridian
Jackson

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., OCTOBER, 1917. No. 10.

GENERAL SUMMARY.

The weather of the month was the most severe and unseasonable of any October in the climatological history of the State, covering the period 1892-1917. The mean temperature (34.7°) is the lowest of record for North Dakota, there was less than the usual sunshine, the wind movement was excessive, and, while the precipitation was slightly deficient, the greater portion occurred in the form of snow. As a result of these unfavorable conditions, farm work was greatly delayed. Owing to the freezing of the ground, fall plowing was stopped in practically all parts of the State, and thousands of acres of potatoes were destroyed. Flax threshing and corn harvesting were only partially completed at the close of the month. While livestock on the ranges suffered considerably, and fall feed was shortened by low temperatures and heavy snows, reports indicate that livestock will enter the winter in fair condition.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from five recording stations, was 30.03 inches. The highest was 30.85 inches at Williston on the 20th; the lowest was 29.40 inches at Devils Lake on the 14th.

TEMPERATURE.

The mean temperature for the State was 34.7°, or 9.1° lower than the normal, and 5.3° lower than the mean for October, 1916. The highest mean reported was 40.2° at Marmarth, Slope County; the lowest was 30.4° at Langdon, Cavalier County. The highest temperature reported was 82° at Colgate, Steele County, on the 1st, and at Marmarth, Slope County, on the 3d; the lowest was −4° at Marstonmoor, Stutsman County, on the 23d. The greatest monthly range of temperature was 85° at Colgate, Steele County; the least was 48° at Pembina, Pembina County. The greatest daily range was 60° at Mott, Hettinger County, on the 8th. The distribution of temperature was quite uniform. Usually the highest temperature occurred on the 1st or 3d, and the lowest on the 12th or 23d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 76 per cent, the average at 7 a. m. being 82 per cent, and at 7 p. m. 70 per cent.

PRECIPITATION.

The average precipitation for the State was 0.77 inch, or 0.23 inch below the normal, and 0.08 inch less than the average for October, 1916. The greatest monthly amount reported was 2.15 inches at Donnybrook, Ward County; the least was 0.04 inch at Mandan, Morton County. The greatest amount recorded in any twenty-four consecutive hours was 1.20 inches at McKinney, Renville County, on the 17th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall for the State was 6.4 inches, and the greatest fall reported was 14.5 inches at Hansboro, Towner County, and Langdon, Cavalier County. The greater part of the precipitation occurred during the last one-half of the month. Particularly stormy periods were the 2d-3d, 17th to the 22d, inclusive, and the 26th to 30th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of four stations, was 11.7 miles. The greatest wind movement was 9,871 miles at Devils Lake, an average of 13.3 miles per hour; the least was 7,191 miles at Williston, an average of 9.7 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of five stations equipped with anemometers, was at the rate of 50 miles per hour from the north at Devils Lake on the 22d.

SUNSHINE AND CLOUDINESS.

There was considerably less than the normal sunshine; the average number of clear days was 8, partly cloudy days 11, and cloudy days 12.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.57	−0.43	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	11	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	−2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	−2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	−1	0.77	−0.23	5	8	11	12	nw.

Climatological Data for October, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	33.8	−11.2	74	1	3	23	36	0.48	−0.92	0.20	3.0	3	15	11	5	n.	E. T. Carley.
Ashley	McIntosh	2,001	20	35.9	−8.1	72	3	2	29	44	0.30	−0.77	0.20	3.0	2	14	11	6	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11																	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	23	35.1[a]	−10.5	66[a]	3	4[a]	12	45[a]	0.33	−0.59	0.18	2.8	5	14	8	9	nw.	C. L. Hall.
Bierman	Slope		1	39.0		77	3	10	12	43	0.83		0.65	2.5	5	11	6	14	nw.	E. P. Biermann.
Bismarck	Burleigh	1,674	43	36.4	−7.7	79	3	10	12	42	0.21	−0.82	0.14	2.2	3	10	9	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	31.4	−11.1	74	1	1	30	46	1.15	+0.07	0.55		11	11	7	13	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5																	G. H. Phelps.
Bowman	Bowman		3																	W. H. Workman.
Buford	Williams	1,944	38																	P. Elmore.
Cando	Towner	1,488	16	36.2[n]	−8.0	77[n]	1	4[n]	24†	38[n]	0.87	+0.07	0.46		5					E. T. Judd.
Carson	Grant	2,500	5	36.6		80	3	8	21	42	0.39		0.20	3.9	7	12	14	5	nw.	J. W. Evens.
Colgate	Steele	1,177	3	34.5		82	1	−3	20	46	0.28		0.10	2.0	5	6	7	18	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7								0.65	−0.38	0.20	4.0	5	16	11	4	nw.	S. Friswold.
Crosby	Divide	1,954	10	33.8	−8.4	70	3	9	22	39	1.38	+0.69	1.00	13.8	5	12	7	12	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	32.4	−8.1	73	1	10	23	30	1.32	+0.09	0.68	7.3	13	2	11	18	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	38.2	−6.0	79	3	5	12	53	0.22	−0.54	0.15	2.2	4	13	0	18	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	18	32.5	−10.8	74	3	−1	23	47	2.15	+1.25	1.05		5	12	8	11	nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	32.0	−10.2	72	1	0	30	41	1.13	+0.41	0.56		12	6	11	14	nw.	J. G. Lamont.
Eckman	Bottineau		12	31.6[a]	−11.1	72[a]	1	−1[a]	12†	53[a]	0.98	+0.15	0.40	9.1	7	12	11	8	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	36.0	−9.9	80	1	1	23	44	0.24	−0.80	0.13		4	0	13	18	nw.	O. A. Thompson.
Energy †‡	McLean		5								0.33		0.17		4	4	16	11	nw.	N. W. Solenberger.
Epping	Williams	2,224	9								0.98		0.40	9.5	7	12	11	8	nw.	M. E. Uggen.
Fessenden	Wells	1,610	5	31.4		75	1	3	12	46	0.45		0.30	3.5	3	12	10	9	nw.	G. T. Seymour.
Forman	Sargent	1,249	25	37.4[f]	−8.5	71[f]	1	5[f]	23	32[f]	0.50	−0.86	0.20	4.0	3				nw.	A. Maltby.
Fullerton	Dickey	1,439	19	36.6	−8.0	76	1	3	23	40	0.58	−0.65	0.52	5.8	3	11	8	12	nw.	F. O. Alin.
Garrison	McLean	1,901	22	35.0	−9.2	76	1†	3	12	43	0.86	+0.04	0.35	7.5	7	7	18	6	nw.	G. L. Robinson.
Grafton	Walsh	827	25	32.2[a]	−11.0	73[a]	1	6[a]	30	39[a]	0.97	+0.08	0.34	4.5	4				nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	25	32.8	−11.2	71	1	2	23	32	1.15	−0.13	0.46	6.6	11	12	6	13	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	36.0		79	1	0	19	55	0.30		0.30	3.0	1	11	4	16	nw.	G. H. Leick.
Granville	McHenry	1,504	10	34.8	−9.3	76	1	3	30	44	0.70	−0.20	0.56	13.5	6	11	12	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12																	J. Moffatt.
Hansboro	Towner	1,597	9	31.8		72	1	0	23	40	1.05		0.40	14.5	5	9	9	13	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	38.5	−8.8	80	2	3	12	57	0.13	−0.63	0.04		6	10	12	9	nw.	A. J. Ogaard.
Hillsboro	Traill	901	11	34.6	−11.4	72	1	5	23	34	1.20	+0.20	0.63	7.0	9	3	22	6	nw.	F. E. Mayall.
Howard	Williams	2,275	10	34.0	−8.2	75	3	5	29	44	1.65	+0.92	1.13	11.5	6	2	23	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	33.6[d]	−11.9	80	1	3[g]	19	50[g]	0.80	−0.12	0.40	6.0	6	4	1	26	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	31.7	−10.5	71	1	−3	23	37	0.66	−0.25	0.32	20.0	6	7	16	8	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	32.0	−11.1	75	1	−1	12†	47	0.60	−0.11		6.0	4	13	7	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	30.4	−10.9	69	1	−2	23	37	1.99	+1.00	0.50	14.5	10				nw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	33.8	−10.6	71	1	7	30	35	0.93	−0.38	0.40	8.0	4	8	10	13	n.	G. G. Graham.
Linton	Emmons	1,711		33.8		76[a]	3	−3	23	48[a]	0.40		0.25		2					Father Sailer.
Lisbon	Ransom	1,091	13	31.4	−13.9	63	1	6	22	30	0.70	−0.48	0.70	7.0	2	9	5	17	nw.	W. S. Adams.
McClusky	Sheridan	1,943									0.40		0.40	4.0	1					R. M. Rishworth.
McHenry	Foster	1,509	7	32.1		70	1	2	23	40	1.36		0.85	12.0	3	16	8	7	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	32.7	−9.1	74	1	2	23†	40	1.56	+0.78	1.20	14.0	5	3	20	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	37.0		73	1	8	19	34	1.26		0.60	8.5	6	5	8	18	nw.	R. D. Markland.
Maddock	Benson	1,604	2	33.5		75	1	4	30	38	0.60		0.50		3	4	7	20	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	36.6		79	3	7	12	45	0.04		0.03		2					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	34.6	−9.3	74	1	4	12	44	0.81	−0.10	0.50	7.5	6	9	12	10	nw.	P. B. Anderson.
Manning	Dunn	2,450	2																	A. J. Bretzlaff.
Marmarth	Slope		8	40.2		82	3	5	22†	55	0.20		0.20	3.3	1				nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	31.6		75	1	−4	23	52	0.44		0.15	4.0	5	3	10	18	nw.	H. H. McCumber.
Mayville	Traill	975	21	36.2	−9.0	74	1	10	12†	36	0.62	−0.62	0.40		3	11	4	16	nw.	W. C. Gould.
Melville	Foster	1,590	19	35.3[h]	−8.4	70[e]	1	6	29†	30	0.70	−0.20	0.30	7.0	3				nw.	J. P. Kidder.
Milnor	Sargent	1,097	5								0.75		0.65	4.0	2	5	7	19	n.	Hj. Edman.
Minot	Ward	1,557	21	31.5	−12.9	77	1	3	12	46	1.46	+0.49	0.90	12.5	5	9	11	11	nw.	W. I. Faris.
Minto	Walsh	820	24	33.4	−9.8	72	1	6	12	37	1.55	+0.36	0.75		7	7	6	18	nw.	C. M. Evans.
Mott	Hettinger	2,424	10	32.7	−11.3	74	5†	−1	18	60	0.21	−1.08	0.11	2.0	5	5	13	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	33.5	−8.4	78	1	−3	23	48	0.40	−0.48	0.20	6.0	3	10	4	17	w.	C. J. Hoof.
New England	Hettinger	2,400	23	39.6	−4.3	78	3	7	12	48	0.40	−0.24	0.30	4.0	2	2	11	18	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	36.0	−8.9	78	1†	6	19	48	0.48	−0.62	0.32	4.5	7	13	10	8	nw.	J. Christiansen.
Orange‡‡	Adams	2,586	8	38.3		80	3	0	19	58	0.40		0.40	4.0	1	8	11	12	nw.	T. F. Young.
Oriska	Barnes	1,270	12																	J. J. Taylor.
Park River	Walsh	998	13	36.6[f]	−7.7	70[k]	1	8[a]	19†	36	1.59	+0.59	1.15		5				nw.	O. J. Sieker.
Parshall	Mountrail		2								0.32		0.32		1	7	16	8	nw.	J. A. Johnson.
Pembina	Pembina	789	43	33.4	−7.4	58	7	10	12	32	0.48	−1.01	0.20	4.0	3	4	22	5	nw.	C. W. Shumaker.
Power	Richland	1,020	25																	J. H. Radcliffe.
Powers Lake	Burke	2,205	2								1.30		0.60	12.0	3	11	15	5	nw.	C. Frank.
Sanish	Mountrail	2,200		39.3		76	3†	9	12	55	1.38		0.88		3	10	3	18	nw.	E. H. Senechal.
Searing	McKenzie										0.65		0.50	5.0	2	4	8	19	nw.	T. C. Taylor.
Steele	Kidder	1,857	20	36.3	−7.2	74	3	7	28	40	0.78	+0.06	0.60	4.0	4	11	14	6	nw.	H. S. Wood.
Taylor	Stark	2,493	1	37.6		76	3	9	12	42	0.48		0.35		6	16	6	9	w.	H. Leutz.
Towner	McHenry	1,482	15	34.4	−8.5	75	1	1	23	46	0.76	−0.32	0.60	6.0	4	7	9	15	nw.	B. Bagley.
Wahpeton	Richland	962	23	35.6	−11.2	68	3	8	23	40	0.57	−1.07	0.24	3.0	6	5	13	13	nw.	F. E. Smith.
Walhalla	Pembina	966	10	33.0[c]	−10.0	71[c]	1	−1[c]	23	32[c]	0.99	−0.02	0.75	4.0	1	4	17	10	w.	Iyan Lee.
Washburn	McLean	1,734	18	37.4	−7.6	79	3	8	30	46	0.13	−0.87	0.08		2				nw.	J. T. McCulloch.
Watford	McKenzie																			M. E. Johnson.
Westhope	Bottineau	1,508	11	32.0	−10.2	76	1	3	30	43	1.38	+0.71	0.70	12.0	4	4	16	11	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	37.2	−5.7	76	3	13	29	40	1.00	+0.23	0.35	1.7	10	5	14	12	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	32.0	−10.2	71	1	5	12†	43	0.79	+0.12	0.29	2.0	7	7	15	9	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	34.5		79	3	2	12	49	0.46		0.38	5.6	5	7	15	9	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	35.1	−7.7	75	1	5	23	33	0.76	−1.31	0.33	3.8	10	8	8	15	nw.	U. S. Weather Bureau.
Averages				34.7	−9.1	82	1	−4	23	60	0.77	−0.23	1.20	6.4	5	8	11	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for October, 1917.

Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red			.18	T.														.20		.10			T.				T.					0.48
Ashley	Missouri																	T.	.20	.10								T.					0.30
Beach	Lit. Missouri																																
Berthold Agency	Missouri			T.						T.	T.				T.			.18	T.	.08			T.		T.	.01	.05	T.			.01		0.33
Bierman	Lit. Missouri	T.						.03										*	.65								.05			.10			0.83
Bismarck ***	Missouri	T.	T.	T.						T.				T.	T.			.14	T.	.03		T.	T.		T.		.01	T.	T.	T.	.03		0.21
Bottineau ‖	Mouse			.16	.02				.03		.01							.55	.10			.08	.05				.09	.05	.01	T.	T.		1.15
Bowbells ‖	Mouse																																
Bowman	Grand																																
Buford	Missouri																																
Cando	Sheyenne		.13	.04													.10	.40	.20														0.87
Carson	Heart	T.						.01										.10	.20	.05	.01									.01	.01		0.39
Colgate	Sheyenne		.02	.01						T.	T.	T.		T.			T.	.05	.10	T.	.10	T.				T.	T.		T.	T.			0.28
Cooperstown	Sheyenne			.15													.10	.20		.10			.10										0.65
Crosby	Mouse		T.	T.								T.					.15	1.00		.08	T.			T.	.10		.05	T.					1.38
Devils Lake ***	Sheyenne		.24	.02					.02		T.	T.		T.			.02	.65	.12	.03	.01	.01	.12			.01	.05	.02		T.	T.			1.32
Dickinson ‖	Heart							T.							T.			.15	T.	T.	.03	.03	T.			T.	T.	T.	T.		.01		0.22
Donnybrook	Mouse																*	1.05		T.		*				*			1.10				2.15
Dunseith	Mouse		.14	.08							.04						*	.56		.09		.04				.10	.04	.02	.01	.01			1.13
Eckman	Mouse		.03	T.						.04							.11	.40	.10			.10		T.			.20			T.			0.98
Edgeley	James			T.						.01										.13	.08	T.	.02										0.24
Energy	Missouri			T.													.17		.02	T.	T.					T.	.11	T.	T.		.03		0.33
Epping	Missouri														T.		.15	.40		.08				T.		.25	.04	T.	.03		.03		0.98
Fessenden ‖	James				T.				T.			T.						.05	.30	T.	T.		.10					T.	T.	T.	T.		0.45
Forman	Sheyenne		.10															T.	.20		.20		T.										0.30
Fullerton	James		T.	T.								.02						T.	.52	T.			.04							T.	T.		0.58
Garrison	Missouri																	.35		.16		.05				.03	.05	.03			.19		0.86
Grafton ‖	Red			.24						T.								.34	.24				.15										0.97
Grand Forks	Red		.22	T.	T.				T.	T.	T.	.03			.02		T.	.32	.24	.12		.05	.12			T.	.01	.01		.01			1.15
Grand Rapids	James		T.															T.	.30	T.		T.					T.						0.30
Granville	Mouse		T.	T.							T.						.05	.56		.01				.01		.06	.01	T.		T.			0.70
Hannah	Pembina																																
Hansboro	Red		.10														.30	.40								.10			.15				1.05
Hettinger	Grand		T.																	.04	T.		.02				.01	.02	.03	.01	T.		0.13
Hillsboro	Red		.07	.14								.05			.02		.01	.18	.63		.05		.05				T.						1.20
Howard	Missouri			T.	T.						T.		T.	T.	T.		.04	*	1.13	.40		T.		.07		.01	T.	T.	T.		T.		1.65
Jamestown ‖	James		.03							.02								.15	.40							.20							0.80
Lakota	Sheyenne		.08	.03				T.	T.	T.		T.			T.		.15	T.	.32	.04						.04	T.						0.66
Lamoine	Missouri										T.						T.	*	*	*	.60						T.	T.	T.	T.	T.		0.60
Langdon ‖	Pembina										.02	.02		T.				.50	.40		.10	.20		.10	.40		.20	T.	.05					1.99
Larimore ‖	Red			.18								T.						.40	.10		.05	T.		.20									0.93
Linton	Missouri																		.25		.15												0.40
Lisbon ‖	Sheyenne							T.				T.						*	.70	T.	T.	T.							T.	T.			0.70
McClusky	Missouri																		.40														0.40
McHenry	James			.10								T.						.85		.41							T.	T.					1.36
McKinney	Mouse		.06	T.						.10							.10	1.20						T.		.10	T.						1.56
McLeod	Sheyenne		.09	.04								T.					T.	.28	.60	.10	.15		T.						T.				1.26
Maddock	Sheyenne		.07	.03														.50															0.60
Mandan ‖	Missouri											T.							.03	T.	T.						T.	T.			.01		0.04
Manfred	Sheyenne		T.	T.						.04	T.	T.						.15	.50	.08			.02				.02	T.		T.			0.81
Manning	Knife																																
Marmarth	Lit. Missouri	T.						T.										.20									T.		T.				0.20
Marstonmoor	James	T.	T.	T.	T.					.04	T.	T.		T.				T.	.15	.15		T.	.05				.05	T.	T.	T.	T.			0.44
Mayville	Red			.21																	.40	T					.01		T.		T.		0.62
Melville	James		T.	T.							T.	T.						T.	.30	.20							.20							0.70
Milnor	Red		T.							T.								T.	.65	T.		T.	.10										0.75
Minot ‖	Mouse									.01								.30	.90		.10				.15								1.46
Minto	Red		.14	.20														.75	.32			.03	.10				T.		T.	.01			1.55
Mott	Cannon Ball		T.					.03										.11	.03	T.		T.	T.				.02		.02	T.			0.21
Napoleon ‖	Missouri																		.20		.15							.05					0.40
New England	Cannon Ball							T.										.30									.10						0.40
New Salem	Heart	T.																.08	.32	.02		.03		T.	.01	T.	T.	T.	.01	.01			0.48
Orange	Cannon Ball																		.40														0.40
Oriska	Sheyenne																																
Park River	Red		T.	.16						T.		T.					T.	1.15	.21			T.	.05			.02				T.			1.59
Parshall	Missouri																	.32															0.32
Pembina ‖	Red								.08											.20	.20												0.48
Power	Sheyenne																																
Powers Lake	Missouri																.50	.60	T.	T.		T		T.		T.			.20				1.30
Sanish	Missouri																T.	.25		.88				T.	T.	.25	T.	T.	T.				1.38
Searing	Lit. Missouri																	.50	T.		T.				.15		T.	T.			T.		0.65
Steele	Missouri			T.							T.	T.	T.			T.		.02	.60	.15		.01										T.	0.78
Taylor	Heart	.03													T.			.35	.04	.02	.03				T.		T.	.01	T.	T.	T.		0.48
Towner	Mouse		.10														.06	*	.60						T.	T.		T.					0.76
Wahpeton ‖	Red			.24	.04				.03		.06							T.	.10	T.	.10	T.	T.	T.				T.	T.	T.	T.	T.	0.57
Walhalla	Pembina									.04								.75			.20												0.99
Washburn	Missouri																	.08		T.						.05							0.13
Watford	Lit. Missouri																																
Westhope	Mouse		.16	.02													.70	.50						T.				T.					1.38
Williston ***	Missouri			.01	.01						T.			T.	.10		T.	.34		.07	T.	T.		T.	.35	.03	.01	T.	.01	T.	.07		1.00
Willow City	Mouse		.22	.04					.04	T.							.10	.29			.05	T.				.05	T.	T.	T.	T.			0.79
Zap	Knife			.01														.38		.04							.02			.01			0.46
Moorhead, Minn ***	Red		.10	.01					.03								T.	.22	.23	.04	.07	T.	.02				.01	.03		T.			0.76

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	74	55	56	62	65	68	50	47	41	51	38	44	50	62	58	48	42	28	34	40	40	29	33	42	42	46	32	32	24	28	41	45.2
	Minimum	42	37	36	38	31	32	28	16	23	23	29	13	14	26	32	19	22	26	6	6	16	23	3	5	25	22	23	21	20	10	15	22.3
Ashley	Maximum	60	58	72	66	58	65	50	55	52	60	55	47	58	52	53	51	48	33	33	37	42	34	29	44	38	36	28	26	28	31	42	46.8
	Minimum	38	35	40	50	25	40	32	11	40	25	25	15	23	40	38	25	33	19	5	25	28	16	4	23	25	17	21	21	2	15	18	25.0
Beach	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum	62	62	66	66	59	59	49	62	62	36	36	49	55	55	50	50	45	32	35	35	37	36	46	45	39	36	30	23	20	31	35	45.6
	Minimum	41	30	29	40	22	39	33	17	35	23	23	4	21	45	31	21	31	21	11	20	31	19	12	20	28	23	22	20	14	19	17	24.6
Bismarck	Maximum	76	39	79	63	60	62	44	65	57	66	43	46	56	32	32	49	44	29	36	39	43	28	44	51	44	35	27	27	23	31	42	47.5
	Minimum	44	37	38	43	29	40	23	23	30	26	18	10	27	42	36	28	29	14	12	25	26	14	13	26	25	22	23	16	13	15	18	23.3
Bottineau §§	Maximum	74	47	60	56	68	57	44	63	46	58	38	43	56	55	51	43	34	28	33	33	36	28	33	44	34	32	26	27	18	27	32	42.7
	Minimum	31	31	34	35	25	27	28	17	27	27	23	9	10	25	28	15	22	23	11	17	18	19	8	12	16	24	19	13	14	1	10	20.0
Bowbells §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Carson	Maximum	76	70	80	60	60	60	45	60	55	65	50	50	55	58	52	55	50	40	40	42	40	35	45	46	45	37	25	25	26	30	44	49.1
	Minimum	43	34	38	36	26	40	31	18	34	26	23	10	28	35	35	40	35	10	9	20	8	13	10	23	25	20	20	17	12	13	18	24.1
Colgate	Maximum	82	55	46	60	56	72	40	46	46	55	47	57	52	63	62	50	42	40	32	39	39	37	38	40	42	40	32	32	28	28	33	46.2
	Minimum	40	33	30	40	28	35	22	13	36	30	13	11	45	30	28	16	30	22	15	23	18	7	18	25	28	20	22	19	16	8	11	22.8
Crosby	Maximum	63	50	70	60	61	54	43	65	55	35	54	50	59	52	49	44	34	29	34	36	35	25	38	38	37	34	24	22	19	33	34	43.1
	Minimum	42	35	37	44	30	39	26	30	35	16	15	14	32	39	29	29	23	10	10	20	24	9	13	18	33	24	21	14	11	16	20	24.5
Devils Lake	Maximum	73	49	59	56	51	60	38	54	49	57	38	40	54	54	50	44	37	28	31	31	37	26	31	38	33	32	27	27	20	27	33	41.4
	Minimum	45	35	34	36	27	36	24	24	37	33	13	11	26	33	31	19	28	14	12	19	22	12	10	21	25	22	21	17	12	10	15	23.4
Dickinson	Maximum	77	70	79	67	68	61	46	68	67	69	56	55	61	54	53	56	46	48	37	37	40	32	51	46	45	33	27	24	30	39	45	51.2
	Minimum	40	30	30	48	22	45	32	15	15	30	21	5	28	30	30	32	32	28	8	30	32	19	14	24	28	22	24	18	13	16	26	25.1
Donnybrook	Maximum	72	56	74	62	58	55	46	65	60	62	53	49	56	53	50	38	33	31	32	32	33	27	34	35	34	32	24	22	19	29	32	43.8
	Minimum	43	31	27	41	19	43	24	18	32	23	12	8	27	34	29	16	30	16	10	13	24	14	− 1	13	26	21	16	14	6	1	17	21.2
Dunseith	Maximum	72	62	58	56	54	55	44	57	56	56	52	38	54	54	49	42	35	31	30	31	35	32	30	38	33	32	25	25	20	24	34	42.4
	Minimum	40	34	31	44	24	35	26	16	36	29	21	7	18	32	32	15	19	19	9	19	20	16	5	18	25	22	19	19	12	0	10	21.7
Edgeley	Maximum	80	63	69	63	55	68	52	56	53	57	53	43	60	59	55	47	48	36	34	35	42	35	32	42	41	39	30	29	24	31	42	47.5
	Minimum	38	35	39	51	25	32	33	12	40	35	27	5	19	42	37	21	33	20	5	23	24	18	1	22	25	20	22	23	11	4	15	24.4
Fessenden §§	Maximum	75	40	66	59	59	61	42	60	46	59	37	43	54	50	57	42	35	25	32	39	36	25	36	40	36	33	26	25	18	30	37	42.7
	Minimum	36	33	30	42	22	33	28	14	28	23	23	3	15	31	23	14	19	23	4	16	17	18	5	9	22	22	19	19	12	4	14	20.0
Forman	Maximum	71	67	60	61	55	66	..	..	..	..	..	..	58	57	55	50	48	41	35	35	44	38	37	41	43	41	36	30	30	29	41	[f]46.8
	Minimum	46	40	36	53	32	38	..	..	..	..	..	..	27	40	39	25	40	23	10	27	27	23	5	28	33	19	26	23	12	10	15	[f]27.9
Fullerton	Maximum	76	59	63	64	52	67	44	55	51	55	50	41	57	57	54	49	49	47	37	35	43	34	35	45	40	34	42	30	35	29	41	42.7
	Minimum	44	39	37	50	30	35	22	15	41	29	28	9	21	43	31	25	35	25	4	24	24	16	3	15	19	20	37	25	20	6	20	25.6
Garrison	Maximum	76	60	76	63	62	64	48	65	48	64	56	46	52	54	53	43	41	32	34	35	36	34	43	47	41	38	26	24	26	28	36	46.8
	Minimum	40	33	33	29	20	40	29	22	36	24	24	3	24	34	33	22	26	22	11	15	27	14	9	19	29	26	21	18	10	9	16	23.2
Grafton §§	Maximum	73	57	57	..	54	64	37	51	47	54	34	38	51	58	63	50	35	30	33	33	33	27	32	40	33	35	31	30	22	29	35	[a]42.2
	Minimum	45	36	30	39	..	27	28	12	30	33	25	8	16	30	29	19	30	22	10	13	14	22	12	14	22	19	23	19	17	6	13	[a]22.1
Grand Forks	Maximum	79	57	65	63	55	65	52	54	52	56	52	44	58	58	55	68	47	38	34	35	43	38	34	48	44	38	38	32	25	29	41	48.3
	Minimum	40	35	36	51	28	36	32	11	42	27	28	7	20	40	37	13	34	20	0	24	22	16	1	22	27	17	25	23	13	7	15	23.8
Granville	Maximum	76	59	69	61	62	64	49	50	52	52	49	48	58	63	60	58	48	36	38	34	30	27	37	40	34	34	37	30	25	40	35	47.1
	Minimum	36	35	31	40	22	35	20	19	28	28	21	4	28	35	28	30	36	28	18	18	27	12	15	18	18	24	20	15	5	3	10	22.5
Hannah	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum	72	55	64	62	54	64	41	54	51	57	50	42	60	67	52	50	32	35	31	28	35	38	36	36	36	35	30	28	26	30	32	44.6
	Minimum	36	33	31	40	14	24	18	12	37	24	18	15	22	30	30	28	15	15	7	15	5	5	0	13	18	20	20	12	9	12	15	19.1
Hettinger	Maximum	70	80	61	62	62	66	58	69	61	72	40	53	60	60	54	64	52	28	40	45	44	25	50	50	58	46	61	57	33	42	57	54.0
	Minimum	25	39	42	45	43	31	30	12	32	27	21	3	25	29	31	28	28	19	6	25	25	12	7	21	22	17	11	13	13	10	22	23.0
Howard	Maximum	70	61	75	62	68	54	46	67	62	60	42	54	64	51	52	38	40	26	36	35	37	26	38	38	38	38	38	26	28	38	38	46.6
	Minimum	40	30	34	35	26	30	23	26	20	24	15	10	25	33	26	26	28	8	12	24	21	9	8	21	28	14	18	11	5	18	20	21.5
Jamestown §§	Maximum	80	55	68	62	60	70	42	55	48	58	36	44	59	57	53	44	42	26	33	35	42	27	34	44	40	38	30	30	20	30	40	46.1
	Minimum	30	30	30	30	28	28	30	14	24	27	25	9	19	40	38	18	20	25	3	6	22	22	5	4	..	..	..	..	..	..	..	22.0
Lakota	Maximum	71	62	62	57	50	61	45	49	47	54	51	38	54	56	51	44	36	51	29	29	35	33	30	33	32	33	30	29	23	21	33	42.9
	Minimum	42	27	30	42	22	37	25	12	35	31	21	8	23	29	27	11	30	19	4	13	12	22	− 3	21	19	11	20	11	15	7	11	20.5
Lamoine	Maximum	75	60	72	60	55	60	40	58	48	62	54	45	60	53	51	47	44	33	33	33	32	30	36	30	36	30	24	24	20	27	36	44.1
	Minimum	36	32	33	37	20	40	17	11	35	24	25	− 1	20	33	28	18	33	12	12	12	18	18	− 1	18	20	24	18	5	6	−1	12	19.8
Langdon	Maximum	69	52	63	54	52	63	39	51	50	47	42	40	53	54	48	49	41	38	26	31	35	22	28	37	32	37	28	27	22	26	31	41.5
	Minimum	47	37	32	40	26	35	30	16	24	24	22	3	26	16	28	15	22	22	− 1	16	11	16	− 2	5	14	16	20	14	13	0	9	19.2
Larimore §§	Maximum	71	54	63	57	51	64	38	50	46	53	35	35	51	59	54	47	37	34	31	38	36	22	31	37	40	38	32	21	24	31	34	42.4
	Minimum	41	37	32	45	27	37	29	15	37	35	40	9	24	34	33	22	34	23	11	24	10	20	12	23	22	23	22	18	16	7	15	25.1
Lisbon §§	Maximum	63	58	52	50	50	47	46	48	50	42	37	38	39	50	48	41	43	40	36	38	34	36	40	38	33	40	38	22	40	36	38	42.3
	Minimum	36	39	38	39	33	40	36	18	26	29	23	8	12	18	30	16	15	24	12	8	10	6	12	12	16	18	13	15	12	13	10	20.5
McHenry	Maximum	70	51	54	57	52	62	53	55	46	55	50	40	55	54	50	47	38	31	30	31	33	24	31	37	37	34	27	25	21	27	41	42.5
	Minimum	40	32	31	40	22	37	23	15	33	28	20	7	30	33	28	17	28	15	3	18	15	14	2	25	24	21	21	17	15	7	11	21.7
McKinney	Maximum	74	65	58	69	50	60	57	53	58	52	58	40	50	50	52	50	38	34	32	35	30	35	32	35	37	39	29	27	19	25	26	44.2
	Minimum	34	34	33	45	18	45	26	20	30	25	25	3	26	28	30	15	30	18	10	14	26	11	2	17	22	22	19	10	5	2	11	21.2
Maddock	Maximum	75	67	58	60	55	60	51	57	58	59	59	41	54	55	52	48	38	32	31	30	36	33	33	36	34	34	27	26	21	25	32	44.4
	Minimum	40	32	31	43	22	40	27	19	36	27	24	16	22	32	32	17	32	20	5	15	18	17	6	15	25	23	20	16	14	4	10	22.6
Marmarth	Maximum	75	70	82	73	74	63	62	71	62	70	63	62	60	70	62	65	55	30	41	43	47	41	55	60	48	33	33	21	29	45	45	55.2
	Minimum	45	34	47	40	36	44	22	16	32	28	18	10	30	30	38	32	24	16	19	26	33	5	10	17	28	24	14	15	5	25	20	25.3
Minot §§	Maximum	77	52	75	62	63	59	60	62	52	64	39	49	52	55	53	38	37	28	35	36	35	25	39	40	37	33	25	25	18	31	34	44.8
	Minimum	39	31	29	38	20	20	18	16	32	22	22	3	7	25	31	15	18	13	5	15	14	16	5	13	17	20	18	15	10	4	12	18.2
Mott	Maximum	72	67	53	66	74	62	51	74	68	55	50	43	40	46	43	42	37	31	38	44	39	26	47	38	35	22	27	18	22	29	37	45.0
	Minimum	36	37	33	35	35	20	24	14	27	26	21	24	27	32	33	26	11	− 1	4	22	14	10	8	22	22	14	12	4	5	13	21	20.4
Napoleon §§	Maximum	78	58	76	63	62	67	44	58	52	64	38	48	58	55	55	50	48	32	32	35	42	26	38	48	41	33	26	27	19	32	42	46.7
	Minimum	30	33	34	38	32	30	31	10	27	20	27	− 1	24	30	35	22	32	22	2	12	20	18	− 3	9	22	18	19	19	9	3	16	20.3
New England	Maximum	76	74	78	68	67	62	67	66	68	56	55	61	60	51	59	55	51	37	41	42	45	51	47	48	52	33	32	32	41	45	54.5
	Minimum	34	32	40	31	25	28	20	26	27	28	21	7	26	31	35	39	28	18	11	25	31	19	13	23	24	26	23	18	13	17	24	24.6
New Salem	Maximum	78	60	78	63	62	60	49	65	50	67	48	47	55	48	54	48	42	32	36	42	44	28	42	55	44	33	29	26	25	32	43	47.9
	Minimum	40	34	30	41	41	49	31	20	34	24	18	7	27	34	33	27	29	10	6	25	28	10	7	21	22	22	22	17	10	7	17	24.0
Orange	Maximum	78	75	80	73	63	59	55	68	60	71	51	51	67	62	53	61	57	31	40	39	45	35	48	51	45	38	35	29	35	46	52.8
	Minimum	38	28	35	43	29	44	32	10	36	29	24	1	24	34	35	40	30	17	0	24	30	20	8	27	28	16	22	17	7	1	17	23.8
Oriska	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Park River	Maximum	70	68	62	60	50	66	44	52	47	55	50	35	54	..	58	49	40	32	..	..	..	..	..	..	..	..	..	26	24	33	..	[b]48.8
	Minimum	34	37	34	44	27	36	28	17	40	38	26	9	24	..	32	23	32	24	8	23	16	20	12	22	24	18	24	20	14	8	15	[a]24.3
Pembina §§	Maximum	54	50	52	50	48	52	58	52	48	44	40	42	40	48	50	52	40	38	32	34	36	34	32	31	32	36	32	32	34	28	32	41.4
	Minimum	41	38	31	38	41	34	36	38	32	28	22	16	28	22	26	28	32	24	26	22	20	24	21	18	16	12	18	14	12	16	20	25.4
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	75	70	65	62	65	59	45	64	63	72	63	45	58	55	56	47	38	33	33	31	35	34	34	39	35	34	30	27	24	29	30	46.8
	Minimum	39	33	42	45	22	45	23	18	32	33	22	3	25	33	32	15	22	21	6	19	21	19	1	15	27	24	20	16	13	2	7	22.1
Wahpeton §§	Maximum	67	59	68	62	52	67	46	48	50	50	37	38	60	58	56	49	45	32	35	41	37	34	37	42	45	45	34	30	23	29	37	45.6
	Minimum	43	39	34	39	37	34	31	16	26	33	30	15	20	30	38	20	31	28	12	18	24	23	8	13	34	22	25	24	20	14	14	25.6
Washburn	Maximum	63	56	79	65	61	61	53	61	56	66	55	56	57	54	55	50	47	40	38	33	40	40	43	53	48	40	28	27	28	29	35	48.9
	Minimum	31	42	33	52	24	15	32	21	36	26	22	11	20	41	34	23	32	20	22	22	28	20	12	21	28	21	22	21	11	8	20	25.8
Watford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	76	55	61	59	60	57	46	65	51	59	52	46	57	54	52	42	34	32	32	32	36	42	32	39	33	31	28	28	22	27	33	44.0
	Minimum	39	32	35	42	23	38	25	22	34	25	21	8	23	29	26	15	28	16	6	10	23	6	4	13	25	18	15	5	9	3	5	20.1
Williston	Maximum	71	60	76	61	65	54	46	68	57	62	40	55	64	49	52	41	35	29	35	40	40	28	47	46	43	31	25	23	28	41	45	47.0
	Minimum	43	37	42	39	28	38	28	30	34	36	21	15	30	43	31	27	26	16	22	26	20	18	19	24	30	25	20	18	13	21	27	27.3
Willow City	Maximum	71	60	59	45	55	55	42	59	55	58	51	42	54	51	40	41	34	32	32	33	35	31	31	40	33	32	25	25	17	25	30	42.0
	Minimum	34	31	34	41	23	35	28	16	34	28	21	5	22	25	28	12	32	20	10	18	24	20	9	15	28	22	19	14	14	5	11	21.9
Zap	Maximum	78	63	79	62	64	50	47	58	58	66	48	44	55	46	45	44	44	32	33	33	33	33	35	50	42	35	27	25	22	43	33	46.0
	Minimum	39	29	30	50	22	30	33	17	34	23	25	2	21	35	30	20	30	18	7	17	29	17	10	25	30	20	21	18	13	9	9	23.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1917

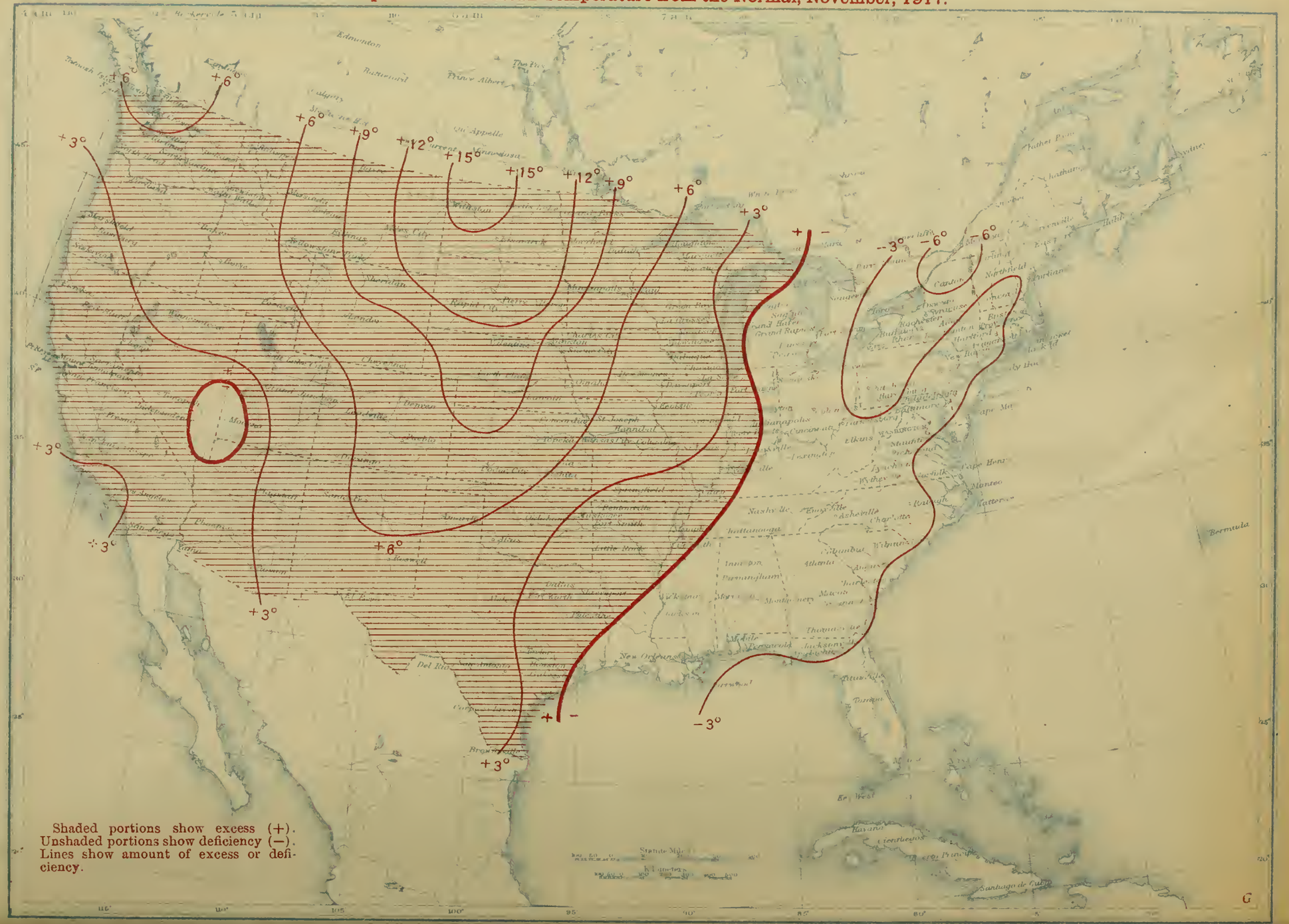
BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 26, 1917.

Departure of the Mean Temperature from the Normal, November, 1917.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., NOVEMBER, 1917. No. 11.

GENERAL SUMMARY.

The weather of the month was mild and pleasant, favorable for all outdoor work and for livestock. Threshing made excellent progress and was practically completed at the close of the month. During the early portion of the month fall plowing made good headway, but the ground was rather too dry for best results, and during the latter portion not much was done. There were no severe storms, and but little cloudiness. The average temperature was the highest of record for November in the climatological history of the State, the mean for the month being higher than during the preceding month (October).

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.17 inches. The highest was 30.64 inches at Bismarck on the 18th; the lowest was 29.60 inches at Grand Forks on the 21st.

TEMPERATURE.

The mean temperature for the State was 36.8°, or 10.2° above the normal, and 8.0° higher than the mean for November, 1916. The highest mean reported was 44.2° at Mott, Hettinger County; the lowest was 31.8° at Pembina, Pembina County. The highest temperature reported was 77° at Mott, Hettinger County, on the 9th; the lowest was −7° at Marstonmoor, Stutsman County, on the 27th. The greatest monthly range of temperature was 79° at Marstonmoor, Stutsman County; the least was 46° at Crosby, Divide County, and Melville, Foster County. The greatest daily range was 58° at Jamestown, Stutsman County, on the 2d. The distribution of temperature was quite uniform, all stations showing mean temperatures considerably above the normal. Usually the highest temperature occurred in the first decade, and the lowest in the last decade.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 82 per cent, the average at 7 a. m. being 88 per cent, and at 7 p. m. 76 per cent.

PRECIPITATION.

The average precipitation for the State was 0.14 inch, or 0.44 inch below the normal, and 0.10 inch less than the average for November, 1916. The greatest monthly amount reported was 0.41 inch at Steele, Kidder County; there was none at Buford, Williams County, Mott and New England, Hettinger County, Parshall and Sanish, Mountrail County, and Washburn, McLean County. The greatest amount recorded in any twenty-four consecutive hours was 0.40 inch at Park River, Walsh County, on the 26th. The average number of days with 0.01 inch or more of precipitation was 1. The average snowfall for the State was 1.4 inches, and the greatest fall reported was 5.0 inches at Devils Lake, Ramsey County. There was but one stormy period during the month, from the 23d, to the 26th, inclusive, and practically all of the precipitation occurred during those four days.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 7.7 miles. The greatest wind movement was 7,519 miles at Ellendale, an average of 10.4 miles per hour; the least was 3,979 miles at Williston, an average of 5.5 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 54 miles per hour from the northwest at Ellendale on the 21st.

SUNSHINE AND CLOUDINESS.

There was very little cloudiness; the average number of clear days was 16, partly cloudy days 6, and cloudy days 8.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.81	+0.23	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.

Climatological Data for November, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	34.4	+8.1	69	2	9	27	50	0.22	−0.28	0.20	2.0	2	17	5	8	s.	E. T. Carley.
Ashley	McIntosh	2,001	20	38.7	+11.5	70	3†	9	1	46	0.20	−0.32	0.20	2.0	1	21	3	6	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	42.4	+12.0	73	4	9	26	46	0.06	−0.46	0.05	0.2	2	27	3	0	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	37.6[a]	+10.1	63[a]	19	9[a]	30	39[a]	T.	−0.54	T.	T.	0	21	6	3	nw.	C. L. Hall.
Bierman	Slope	.....	1	42.0[b]	.....	71[b]	3	19[b]	26	37[b]	0.15	.....	0.10	0.5	2	.....	.....	.....	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	40.2	+14.2	69	2	16	30	44	0.04	−0.64	0.04	T.	2	14	8	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	34.6	+12.4	62	8	6	27	35	0.14	−0.46	0.10	.....	4	13	7	10	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	34.4	.....	57	8†	10	30	34	0.18	.....	0.10	.....	2	21	2	7	.....	G. H. Phelps.
Bowman	Bowman	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Workman.
Buford	Williams	1,944	38	.....	.....	.....	.....	.....	.....	.....	0.00	−0.48	0.00	0	0	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	16	36.4[d]	+10.6	68[d]	7	2[d]	27	34[d]	0.12	−0.36	0.12	.....	1	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	5	38.7	.....	75	3	12	29†	50	0.09	.....	0.09	0	1	13	10	7	nw.	J. W. Evens.
Colgate	Steele	1,177	3	36.5	.....	69	19	7	27	40	0.20	.....	0.20	2.0	1	11	6	13	se.	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	0.30	−0.08	0.30	3.0	1	10	15	5	w.	S. Friswold.
Crosby	Divide	1,954	10	37.2	+10.4	60	19†	14	30	32	0.02	−0.89	0.02	0.2	1	21	2	7	s.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	35.6	+13.0	62	4	− 2	30	32	0.32	−0.39	0.32	5.0	1	12	7	11	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	39.2	+11.9	71	3	6	30	49	T.	−0.53	T.	T.	0	19	1	10	w.	J. C. Thysell.
Donnybrook	Ward	1,760	18	37.2	+9.2	60	8†	11	1	35	0.03	−0.60	0.03	1.0	1	23	3	4	w.	Geo. Michel.
Dunseith	Rolette	1,682	21	35.8	+10.8	64	19	2	27	32	0.16	−0.19	0.16	.....	1	15	7	8	nw.	J. G. Lamont.
Eckman	Bottineau	.....	12	33.2	+6.9	63	20	2	3	50	0.11	−0.39	0.10	1.0	2	16	7	7	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	37.9	+7.5	70	3	11	1	43	0.10	−0.22	0.05	.....	2	6	16	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	.....	37.5	.....	69	3	6	27	45	0.25	.....	0.15	2.5	2	10	10	10	s.	U. S. Weather Bureau.
Energy ††	McLean	1,750	5	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	14	13	3	nw.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	0.5	1	24	3	3	w.	M. E. Uggen.
Fessenden	Wells	1,610	5	35.8	.....	70	4	6	27	46	0.17	.....	0.10	1.8	3	21	4	5	sw.	G. T. Seymour.
Forman	Sargent	1,249	25	37.6	+10.4	67	3	16	1	38	0.10	−0.41	0.10	1.0	1	.....	.....	.....	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	37.6	+9.2	68	2	11	27	43	0.18	−0.50	0.12	1.8	2	12	7	11	nw.	F. O. Alin.
Garrison	McLean	1,901	22	39.2	+14.2	68	3	12	30	43	0.19	−0.49	0.16	1.3	2	17	7	6	nw.	G. L. Robinson.
Grafton	Walsh	827	25	33.2	+10.7	66	19	2	27	43	0.17	−0.47	0.11	2.7	3	17	0	13	se.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	33.8	+8.5	57	4†	10	30	29	0.24	−0.49	0.21	2.4	2	9	10	11	s.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	37.3	.....	71	2	7	27	47	0.05	.....	0.05	1.0	1	16	3	11	se.	G. H. Leick.
Granville	McHenry	1,504	10	39.0	+12.9	70	7	10	1	42	0.15	−0.30	0.10	1.0	3	17	6	7	s.	W. A. Christianson.
Hannah	Cavalier	1,568	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	9	36.0[b]	.....	72[b]	19	6[b]	1	41[e]	0.10	.....	0.10	1.0	1	18	3	9	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	39.8	+7.1	72	3	10	27	52	T.	−0.38	T.	0	0	19	6	5	nw.	U. G. Downey.
Hillsboro	Traill	901	11	35.0	+6.2	66	19	13	27	37	0.20	−0.55	0.10	2.0	3	11	7	12	se.	F. E. Mayall.
Howard	Williams	2,275	10	37.6	+10.9	68	3	8	26	36	T.	−0.60	T.	T.	0	20	4	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	33.9	+7.4	68	2	2	27	58	0.30	−0.43	.....	3.0	3	9	2	19	sw.	S. Calvelage.
Lakota	Nelson	1,579	16	33.2	+9.5	61	19	3	26	31	0.16	−0.54	0.16	4.0	1	17	8	5	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	35.8	+8.8	68	9	9	1†	49	0.20	−0.36	0.20	2.0	1	18	2	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	32.2	+7.1	58	8	5	27†	29	0.10	−0.44	0.10	1.0	1	11	3	16	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	34.2	+9.8	64	19	12	25†	30	0.15	−0.23	0.10	1.5	2	16	2	12	nw.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	13	32.5	+2.3	70	19	12	9	52	0.10	−0.41	0.10	1.0	1	17	8	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	1.0	1	.....	.....	.....	.....	R. M. Rishworth.
McHenry	Foster	1,509	7	35.3	.....	64	4	8	29	35	0.20	.....	0.20	2.0	1	18	0	12	se.	P. E. Trudeau.
McKinney	Renville	1,640	23	34.6	+11.4	65	19†	11	1	33	0.20	−0.47	0.20	2.0	1	13	11	6	w.	N. P. Swenson.
McLeod	Ransom	1,075	5	36.6	.....	68	19	16	1†	42	0.20	.....	0.10	2.0	2	15	1	14	nw.	R. D. Markland.
Maddock	Benson	1,604	2	36.0	.....	64	4	6	1	38	0.13	.....	0.13	.....	1	9	12	9	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	14	38.6	+10.3	67	8	6	27	39	0.22	−0.46	0.12	2.0	2	20	5	5	sw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Bretzlaff.
Marmarth	Slope	.....	8	38.3	.....	72	3	14	18†	49	0.11	.....	0.11	1.5	1	15	7	8	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	35.0[a]	.....	72[a]	4	− 7[a]	27	46[a]	0.40	.....	0.30	4.0	2	.....	.....	.....	sw.	H. H. McCumber.
Mayville	Traill	975	21	36.4	+8.6	68	19	9	27	37	0.26	−0.41	0.25	2.5	2	.....	.....	.....	.....	W. C. Gould.
Melville	Foster	1,590	19	38.4[c]	+10.9	64[c]	3	18[c]	25†	32[c]	0.30	−0.12	0.30	3.0	1	.....	.....	.....	sw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.25	1.0	1	12	2	16	s.	Hj. Edman.
Minot	Ward	1,557	21	35.6	+6.8	71	8	9	1	49	0.35	−0.28	0.20	3.5	3	18	4	8	se.	W. I. Faris.
Minto	Walsh	820	24	33.8	+9.3	66	19	3	27	31	0.32	−0.24	0.32	2.0	1	13	4	13	se.	C. M. Evans.
Mott	Hettinger	2,424	10	44.2	+14.3	77	9	11	25	49	0.00	−0.48	0.00	0	0	17	8	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	38.0	+13.0	72	4	10	1	42	0.15	−0.55	0.15	2.0	1	19	5	6	sw.	C. J. Hoof.
New England	Hettinger	2,400	23	39.9	+11.5	70	3	12	30	53	0.00	−0.55	0.00	0	0	13	10	7	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	40.2	+10.2	75	4	12	30	46	0.01	−0.32	0.01	0	1	17	8	5	se.	J. Christiansen.
Orange ††	Adams	2,586	8	39.8	.....	73	3	9	30	52	0.19	.....	0.19	0	1	11	13	6	se.	T. F. Young.
Oriska	Barnes	1,270	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor.
Park River	Walsh	998	13	37.2[d]	+9.2	64[d]	19	12[d]	25†	55[d]	0.40	−0.36	0.40	4.0	1	.....	.....	.....	s.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	24	3	3	nw.	J. A. Johnson.
Pembina	Pembina	789	43	31.8	+9.6	62	15	8	30	32	0.38	−0.34	0.30	3.0	4	6	12	12	se.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	1.0	1	18	11	1	sw.	C. Frank.
Sanish	Mountrail	2,260	.....	39.5	.....	66	8	12	30	38	0.00	.....	0.00	0	0	17	4	9	.....	E. H. Senechal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	19	1	10	nw.	T. C. Taylor.
Steele	Kidder	1,857	20	39.4	+13.4	70	6	10	25†	47	0.41	−0.18	0.21	3.0	2	20	8	2	se.	H. S. Wood.
Taylor	Stark	2,493	1	40.1	.....	68	3	10	30	35	T.	.....	T.	.....	0	22	2	6	.....	H. Leutz.
Towner	McHenry	1,482	15	36.3	+12.2	61	19	5	1	37	0.05	−0.41	0.05	0.5	1	14	6	10	w.	B. Bagley.
Wahpeton	Richland	962	23	36.8	+10.0	67	4	17	30	44	0.03	−0.64	0.03	1.0	1	10	4	16	se.	F. E. Smith.
Walhalla	Pembina	966	10	34.0[g]	+6.9	66[g]	15†	11[g]	25†	36[g]	0.10	−0.48	.....	1.0	3	.....	.....	.....	.....	Ivan Lee.
Washburn	McLean	1,734	18	37.6	+7.9	69	4	10	29	43	0.00	−0.66	0.00	0	0	.....	.....	.....	nw.	J. T. McCulloch.
Watford	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. Johnson.
Westhope	Bottineau	1,508	11	34.0	+7.7	60	7	5	1†	32	0.10	−0.38	0.10	1.0	1	12	10	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	38	39.4	+14.2	68	3	15	30	38	0.01	−0.59	0.01	0.1	1	16	7	7	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	34.8[c]	+14.0	62[c]	8	0[c]	27	36[c]	0.20	−0.21	0.20	2.0	1	11	12	7	.....	M. A. Ostby.
Zap	Mercer	1,800	4	37.0	.....	69	3	12	27	49	T.	.....	T.	0	0	14	9	7	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	36.2	+11.8	67	19	13	30	40	0.19	−0.79	0.17	1.8	3	14	5	11	se.	U. S. Weather Bureau.
Averages				36.8	+10.2	77	9	− 7	27	58	0.14	−0.44	0.40	1.4	1	16	6	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for November, 1917.

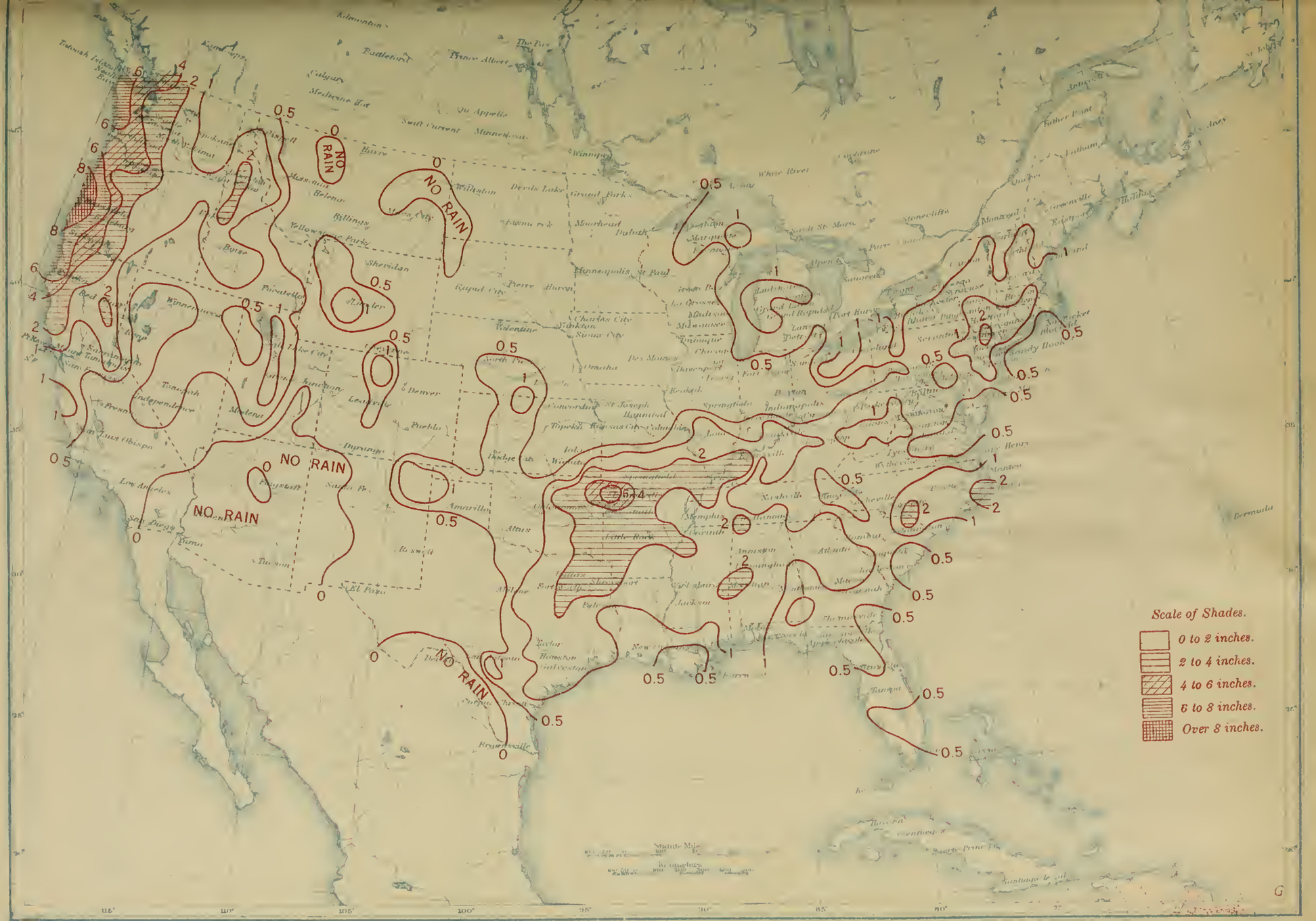
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red									T.	.02															T.	.20						0.22
Ashley	Missouri																								T.		.20						0.20
Beach	Lit. Missouri	.01																					T.				.05						0.06
Berthold Agency	Missouri											T.	T.										T.			T.							T.
Bierman	Lit. Missouri																				.10					.05							0.15
Bismarck ***	Missouri																T.	T.					T.	.02	.02		T.						0.04
Bottineau ‖ ‖	Mouse										T.			T.										.02	.01		.10	.01					0.14
Bowbells ‖ ‖	Mouse																								.08			.10					0.18
Bowman	Grand																																
Buford	Missouri																																0.00
Cando	Sheyenne																										.12						0.12
Carson	Heart																T.	.09								T.							0.09
Colgate	Sheyenne												T.	T.									T.	T.	T.	T.	.20						0.20
Cooperstown	Sheyenne																										.30						0.30
Crosby	Mouse																							T.	.02								0.02
Devils Lake ***	Sheyenne										T.		T.									T.	T.	T.			.32						0.32
Dickinson ‖ ‖	Heart																							T.		T.	T.						T.
Donnybrook	Mouse																								.03								0.03
Dunseith	Mouse																										.16						0.16
Eckman	Mouse											*											.01		.10	T.	T.						0.11
Edgeley	James																						T.		.05		.05						0.10
Elleudale	James																					T.	T.		.15		.10						0.25
Energy	Missouri											T.													T.	T.	T.						T.
Epping	Missouri																									T.	.02						0.02
Fessenden ‖ ‖	James																								.05	.02	.10						0.17
Forman	Sheyenne																						.10										0.10
Fullerton	James																					T.	T.		.06		.12						0.18
Garrison	Missouri																								.16	.03							0.19
Grafton ‖ ‖	Red																							.01			.05	.11					0.17
Grand Forks	Red									T.	T.			T.					T.	T.	T.	T.	T.	.03			.21				T.		0.24
Grand Rapids	James																						T.		T.		.05						0.05
Granville	Mouse																						.03	.02	.10								0.15
Hannah	Pembina																																
Hansboro	Red																						T.				.10						0.10
Hettinger	Grand																										T.						T.
Hillsboro	Red																						T.	.05			.10	.05					0.20
Howard	Missouri																						T.		T.	T.	T.	T.					T.
Jamestown ‖ ‖	James																							*	.20		.10						0.30
Lakota	Sheyenne									T.	T.			T.	T.									T.			.16						0.16
Lamoine	Missouri																						T.		.20								0.20
Langdon ‖	Pembina																							T.		T.	.10						0.10
Larimore ‖	Red																							.05					.10				0.15
Linton	Missouri																																
Lisbon ‖	Sheyenne												T.															.10	T.				0.10
McClusky	Missouri																								.10								0.10
McHenry	James																							T.			.20						0.20
McKinney	Mouse																						.20										0.20
McLeod	Sheyenne																						T.				.10	.10		T.			0.20
Maddock	Sheyenne																										.13						0.13
Mandan ‖	Missouri																																
Manfred	Sheyenne																						T.		.10		.12						0.22
Manning	Knife																																
Marmarth	Lit. Missouri																					T.					.11						0.11
Marstonmoor	James																				T.	T.		.10		.30		T.					0.40
Mayville	Red																							.01			.25						0.26
Melville	James																						T.				.30						0.30
Milnor	Red														T.								T.		T.	T.	.25						0.25
Minot ‖	Mouse																								.20	.10	.05						0.35
Minto	Red																						T.	T.			.32						0.32
Mott	Cannon Ball																										T.						T.
Napoleon ‖	Missouri																								.15								0.15
New England	Cannon Ball																																0.00
New Salem	Heart																										.01						0.01
Orange	Cannon Ball																	.19															0.19
Oriska	Sheyenne																																
Park River	Red																						T.	T.			.40						0.40
Parshall	Missouri																																0.00
Pembina ‖	Red			.04	.02	.02																					.30						0.38
Power	Sheyenne																																
Powers Lake	Missouri																										.10						0.10
Sanish	Missouri																																0.00
Searing	Lit. Missouri																									T.							T.
Steele	Missouri									T.	T.												T.	T.	.20	T.	.21						0.41
Taylor	Heart																								T.								T.
Towner	Mouse																										.05						0.05
Wahpeton ‖	Red									T.		T.	T.	T.		T.						T.	T.			T.	.03		T.				0.03
Walhalla	Pembina																						T.				*		*	.10			0.10
Washburn	Missouri																																0.00
Watford	Lit. Missouri																																
Westhope	Mouse																						T.	.10									0.10
Williston ***	Missouri																						T.	.01									0.01
Willow City	Mouse																						T.				.02						0.02
Zap	Knife																						T.										T.
Moorhead, Minn ***	Red								T.			.01										T.	.01				.17						0.19

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	43	69	65	62	56	54	56	39	41	40	34	32	33	33	60	58	49	42	62	63	42	34	28	26	30	31	38	42	48	38	....	44.9
	Minimum	19	19	24	34	37	28	26	25	28	29	32	18	28	29	20	21	25	18	22	36	32	28	24	15	17	18	9	14	18	21	....	23.8
Ashley	Maximum	50	64	70	70	62	58	62	65	58	57	53	44	52	57	58	59	50	42	62	63	55	48	37	35	26	33	36	45	47	40	....	51.9
	Minimum	9	32	24	33	35	31	23	30	33	26	31	20	30	22	21	25	26	15	30	38	44	25	20	19	14	25	12	23	31	18	....	25.5
Beach	Maximum	65	54	65	73	65	63	66	60	56	56	53	56	57	53	52	48	50	60	62	63	60	59	57	56	58	50	53	54	59	59	....	58.1
	Minimum	35	30	32	35	30	35	35	30	20	10	18	24	28	26	20	16	18	30	30	32	30	29	32	32	34	9	20	26	27	26	....	26.6
Berthold Agency	Maximum	49	54	57	57	43	48	48	60	60	49	45	49	51	..	55	54	48	52	63	61	59	51	49	36	33	35	49	52	43	35	....	[a]49.8
	Minimum	16	22	21	31	22	22	21	27	45	24	25	28	25	..	16	18	29	15	32	38	48	30	37	30	27	13	23	20	24	9	....	[a]25.4
Bismarck	Maximum	58	69	68	66	61	59	63	68	56	42	42	44	55	53	54	52	47	48	69	64	57	44	40	36	31	35	47	54	50	34	....	52.2
	Minimum	16	29	24	39	33	33	26	35	33	28	32	31	31	25	22	26	31	21	32	43	40	33	26	23	21	23	19	26	23	16	....	28.1
Bottineau §§	Maximum	44	50	55	55	54	51	57	62	38	42	50	38	47	50	56	50	44	49	59	55	53	40	38	29	27	31	33	39	33	25	....	45.1
	Minimum	9	15	27	34	31	36	31	32	33	30	24	24	29	25	25	25	30	20	27	32	32	26	29	24	16	15	6	9	27	9	....	24.2
Bowbells §§	Maximum	36	40	43	50	46	41	52	57	56	57	57	46	47	45	56	54	48	50	51	59	50	50	43	32	31	30	37	43	35	26	....	45.5
	Minimum	18	19	21	22	20	26	21	28	29	23	29	26	23	22	29	27	24	21	28	24	34	28	31	24	14	23	12	21	26	10	....	23.4
Carson	Maximum	60	70	75	72	52	60	60	60	50	55	40	50	52	56	54	52	45	45	70	68	65	52	49	35	32	32	40	50	35	32	....	52.3
	Minimum	20	33	35	32	30	30	33	36	30	27	30	25	23	20	22	28	28	18	20	26	27	26	29	28	22	15	15	20	12	12	....	25.1
Colgate	Maximum	45	65	65	61	67	55	55	38	40	41	55	36	35	36	60	59	60	42	69	60	60	46	39	36	27	30	33	36	45	46	....	48.1
	Minimum	16	27	25	26	32	27	24	22	23	31	25	28	29	27	20	26	28	27	33	33	40	21	25	25	20	20	7	10	28	18	....	24.9
Crosby	Maximum	45	44	50	53	49	49	52	55	52	47	43	50	44	50	45	45	39	49	60	60	54	51	42	35	33	35	47	53	35	25	....	46.4
	Minimum	25	33	30	36	29	23	20	30	39	31	29	30	24	28	25	30	25	23	33	39	38	33	28	28	27	23	20	29	18	14	....	28.0
Devils Lake	Maximum	44	52	58	62	56	51	56	61	39	38	50	35	43	43	56	55	44	44	62	55	54	34	38	29	22	31	33	38	39	30	....	45.1
	Minimum	14	34	32	34	32	33	30	32	32	33	27	25	29	28	27	31	23	20	36	36	30	24	29	15	14	21	12	27	28	− 2	....	26.2
Dickinson	Maximum	60	66	71	66	59	60	64	67	55	55	45	54	54	53	53	51	46	55	64	64	55	57	43	37	32	34	49	52	46	43	....	53.7
	Minimum	17	29	22	31	27	31	22	29	27	24	23	22	21	17	20	21	27	14	31	38	39	29	30	32	28	28	12	25	23	6	....	24.8
Donnybrook	Maximum	39	45	56	55	45	42	53	..	46	49	56	49	56	51	54	56	46	50	60	59	55	50	45	40	25	31	35	46	43	32	....	[a]47.6
	Minimum	11	35	33	38	28	26	27	..	27	27	21	25	25	27	27	30	27	21	34	37	43	31	33	23	16	20	14	26	28	16	....	[a]26.8
Dunseith	Maximum	37	48	53	55	57	51	55	62	62	49	51	37	46	51	56	51	42	48	64	55	55	47	37	34	18	30	32	39	38	30	....	46.0
	Minimum	9	28	29	38	37	35	29	35	30	25	28	24	28	25	30	28	26	16	35	38	41	24	31	16	12	15	2	22	19	12	....	25.6
Edgeley	Maximum	51	69	70	66	61	58	61	61	54	49	45	39	41	56	60	57	48	44	60	63	57	48	39	37	30	33	35	40	46	39	....	50.3
	Minimum	11	27	27	25	35	28	21	24	38	26	32	23	29	30	24	27	35	14	35	41	44	24	28	20	14	15	13	19	18	19	....	25.5
Fessenden §§	Maximum	48	59	66	70	57	58	64	68	46	38	39	47	57	52	47	58	45	48	66	62	53	41	39	26	29	34	32	39	43	31	....	48.7
	Minimum	10	19	20	28	27	27	24	26	31	29	27	20	22	25	25	26	28	16	31	35	35	24	26	23	13	14	6	11	23	13	....	22.8
Forman	Maximum	41	62	67	64	57	52	57	47	45	41	41	41	40	40	..	43	48	45	56	57	55	52	37	..	37	33	33	40	43	38	....	[b]46.9
	Minimum	16	28	29	28	37	34	27	27	35	31	34	30	30	32	..	28	34	20	30	32	41	29	27	..	17	23	19	20	32	21	....	[b]28.3
Fullerton	Maximum	49	68	67	66	61	60	60	59	56	45	43	36	37	44	53	53	49	42	67	62	58	42	40	35	22	32	33	36	42	38	....	48.5
	Minimum	14	25	30	26	34	35	29	24	31	32	26	25	31	33	24	23	35	19	29	41	42	25	28	20	15	21	11	18	32	20	....	26.6
Garrison	Maximum	56	66	68	62	61	56	60	64	57	51	47	45	54	52	56	55	46	52	63	62	56	50	48	38	27	32	45	50	45	38	....	52.1
	Minimum	26	30	25	33	28	30	26	28	31	26	25	25	27	22	20	26	27	19	29	38	46	30	30	25	18	25	15	22	28	12	....	26.4
Grafton §§	Maximum	38	53	55	57	58	53	49	47	32	38	34	32	36	47	58	54	45	45	66	53	54	42	39	23	25	30	33	37	39	24	....	43.0
	Minimum	17	21	26	30	33	26	27	27	30	29	27	26	27	27	26	25	29	19	23	32	47	20	21	19	12	15	2	5	20	12	....	23.3
Grand Forks	Maximum	40	54	54	57	56	53	50	44	39	38	35	32	36	36	57	51	44	36	57	51	55	27	38	30	24	31	31	36	41	31	....	42.1
	Minimum	21	28	29	34	31	29	31	31	30	29	30	28	30	30	38	28	28	20	30	33	27	24	27	14	13	23	11	13	25	10	....	25.5
Granville	Maximum	45	50	60	65	64	60	70	65	55	60	55	48	52	50	58	52	44	50	62	55	60	48	40	35	38	30	34	40	45	35	....	50.8
	Minimum	10	30	30	32	34	30	28	28	30	30	29	27	29	27	28	28	28	22	34	34	37	28	28	20	22	18	15	30	26	28	....	27.3
Hannah	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hansboro	Maximum	47	56	58	52	51	54	57	58	52	48	..	48	48	52	69	55	48	44	72	70	..	45	41	34	20	25	32	42	42	37	....	[b]48.2
	Minimum	6	..	29	30	28	29	28	26	28	22	..	26	26	28	30	27	29	17	35	35	35	20	31	16	10	15	12	12	24	10	....	[b]23.7
Hettinger	Maximum	59	70	72	70	60	67	65	64	63	60	53	57	67	53	59	52	48	54	67	58	57	63	52	42	36	38	48	44	37	34	....	55.6
	Minimum	28	18	20	26	26	21	19	24	22	19	25	23	26	19	19	17	30	11	30	37	39	26	36	33	26	26	10	26	21	19	....	24.1
Howard	Maximum	47	43	60	61	56	54	55	68	56	46	44	53	48	50	53	54	43	49	61	60	52	50	46	40	40	40	47	52	38	33	....	50.0
	Minimum	20	28	28	32	28	31	27	32	28	28	28	28	22	24	26	24	22	22	31	42	34	26	27	22	18	8	17	29	16	11	....	25.3
Jamestown §§	Maximum	52	68	60	67	59	53	59	58	40	41	44	35	44	41	57	55	48	45	61	62	55	40	39	39	29	33	34	40	42	33	....	48.0
	Minimum	12	10	16	24	22	33	26	25	26	29	28	24	26	26	24	25	28	20	19	38	40	15	11	17	4	4	2	3	8	8	....	19.8
Lakota	Maximum	37	38	46	60	53	48	55	59	48	46	52	35	37	36	49	53	41	39	61	60	54	46	37	36	25	28	31	35	35	29	....	43.6
	Minimum	10	28	26	29	31	31	28	31	21	22	24	32	28	26	25	26	20	19	34	32	37	22	20	16	15	3	15	11	8	10	....	22.7
Lamoine	Maximum	48	63	65	66	64	60	64	67	68	41	58	58	54	58	58	60	46	48	56	60	54	54	38	32	21	32	21	40	32	28	....	50.5
	Minimum	9	31	25	30	26	20	18	18	30	24	34	21	24	18	18	24	21	12	28	32	22	21	18	14	14	18	18	20	12	9	....	21.0
Langdon	Maximum	36	43	46	51	50	50	55	58	40	40	47	35	30	42	54	51	41	40	47	50	50	46	37	29	25	30	29	34	38	23	....	41.6
	Minimum	9	15	24	36	30	30	30	37	29	29	24	21	27	28	28	28	28	17	25	31	35	20	29	15	10	11	5	5	18	8	....	22.7
Larimore §§	Maximum	46	53	56	57	54	50	50	40	38	41	45	33	34	42	57	56	46	47	64	53	49	34	39	21	25	30	32	37	39	27	....	43.2
	Minimum	17	31	29	30	34	27	27	27	29	28	27	27	28	27	27	28	31	19	34	35	34	20	21	19	12	18	12	22	26	12	....	25.3
Lisbon §§	Maximum	39	39	43	46	44	38	43	40	36	36	38	44	46	50	42	45	62	48	70	62	58	55	54	46	36	33	38	36	48	38	....	45.1
	Minimum	16	18	15	18	22	24	20	16	12	14	16	18	21	20	22	20	18	24	18	30	30	24	26	24	20	18	16	17	18	22	....	19.9
McHenry	Maximum	37	58	59	64	59	52	56	59	50	39	36	37	45	36	55	56	42	44	64	56	57	32	35	30	21	32	37	30	32	25	....	44.5
	Minimum	27	30	31	29	32	32	28	28	32	32	29	27	29	27	24	30	30	18	35	34	39	23	29	17	14	17	20	22	8	11	....	26.1
McKinney	Maximum	36	36	45	48	48	45	36	40	45	45	46	45	45	45	56	45	47	50	65	60	65	65	45	32	22	34	40	40	40	40	....	44.8
	Minimum	11	32	22	32	21	25	20	20	26	25	25	24	24	28	26	26	30	20	34	38	43	32	22	18	18	16	20	27	15	15	....	24.5
Maddock	Maximum	44	51	59	64	55	52	57	56	49	39	42	38	54	50	55	54	46	47	62	58	54	47	38	36	21	32	31	37	38	32	....	46.6
	Minimum	6	32	28	30	31	29	27	29	33	34	28	24	30	28	24	27	30	19	35	35	42	25	30	19	14	16	9	12	23	15	....	25.5
Marmarth	Maximum	60	66	72	65	61	62	66	66	56	53	57	59	53	46	48	46	44	55	61	63	65	58	49	37	37	31	46	50	41	39	....	53.4
	Minimum	17	17	25	29	23	25	21	28	29	23	17	20	23	17	20	18	23	14	34	33	41	26	28	21	26	17	14	20	18	18	....	23.2
Minot §§	Maximum	44	50	63	59	53	53	55	71	40	50	52	55	52	52	55	55	44	52	61	60	55	50	40	32	32	33	38	43	41	29	....	49.0
	Minimum	9	13	25	24	25	24	22	22	27	27	23	22	25	22	20	19	24	16	26	35	38	28	32	25	13	14	10	15	28	16	....	22.3
Mott	Maximum	68	70	72	67	71	66	68	73	77	74	69	66	50	52	63	56	51	57	66	61	62	55	53	50	51	60	67	63	56	52	....	62.2
	Minimum	30	31	34	28	30	32	37	33	28	26	22	18	13	15	21	30	32	35	33	37	34	26	23	16	11	14	22	26	30	23	....	26.3
Napoleon §§	Maximum	49	65	70	72	60	62	67	68	57	56	48	58	57	52	58	56	50	45	64	63	56	40	38	30	31	33	35	42	45	33	....	52.0
	Minimum	10	30	28	32	33	26	27	26	32	23	22	19	20	25	22	20	30	15	30	34	37	23	18	25	12	25	12	25	26	14	....	24.0
New England	Maximum	60	65	70	65	60	60	63	64	55	52	52	52	55	51	53	53	50	68	62	63	63	58	55	43	40	43	46	52	46	38	....	55.2
	Minimum	17	23	28	30	29	29	22	26	25	27	22	25	24	21	21	18	26	15	20	35	47	25	32	30	28	28	14	20	18	12	....	24.6
New Salem	Maximum	62	69	70	75	69	65	63	67	53	53	49	46	56	58	56	57	50	52	67	64	54	50	49	36	29	34	49	53	51	36	....	54.7
	Minimum	16	32	29	32	26	24	25	26	28	27	25	28	27	26	23	25	27	18	29	29	40	31	29	26	19	25	15	26	26	12	....	25.7
Orange	Maximum	62	71	73	70	58	63	65	67	58	57	49	55	60	52	53	52	47	47	68	64	56	57	51	39	34	35	48	58	47	33	....	55.0
	Minimum	12	27	21	34	27	24	21	30	25	26	24	20	30	19	18	20	30	15	30	40	36	37	28	30	20	28	10	21	22	9	....	24.5
Oriska	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Park River	Maximum	37	53	53	58	54	50	49	47	37	45	45	34	37	46	62	58	50	47	64	57	54	38	38	..	32	30	30	..	..	..	....	[d]46.3
	Minimum	18	33	31	31	37	28	25	26	33	30	28	27	29	28	33	35	35	22	37	37	38	22	25	..	12	18	12	..	..	..	....	[d]28.1
Pembina §§	Maximum	40	45	48	42	38	34	32	34	32	34	32	33	32	42	62	53	48	44	46	48	46	42	40	38	32	30	32	30	28	24	....	38.8
	Minimum	20	29	32	34	31	26	28	28	29	26	24	26	27	28	30	32	29	26	28	26	28	26	24	22	20	18	12	14	12	8	....	24.8
Power	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Towner	Maximum	42	49	56	46	55	54	58	53	56	44	39	46	49	48	54	51	42	49	61	60	56	49	39	38	36	32	35	44	40	32	....	47.1
	Minimum	5	34	27	26	26	31	31	32	31	30	26	23	28	25	25	27	27	20	30	31	43	26	29	25	16	18	12	25	28	16	....	25.5
Wahpeton §§	Maximum	40	66	65	67	62	51	55	40	50	48	47	34	37	38	55	57	50	45	62	57	58	40	38	33	27	28	31	34	50	45	....	47.0
	Minimum	20	24	26	29	30	33	29	29	33	27	28	30	30	28	28	28	31	20	25	33	40	25	25	25	18	23	23	19	22	17	....	26.6
Washburn	Maximum	37	40	58	69	60	58	62	68	57	48	43	43	55	54	55	52	41	52	66	61	55	45	45	40	38	34	40	43	40	30	....	49.6
	Minimum	16	22	30	36	32	33	26	34	33	29	29	29	30	32	20	28	28	21	23	34	40	30	25	20	19	20	15	11	10	16	....	25.7
Watford	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Westhope	Maximum	37	43	47	38	50	52	60	55	39	50	38	38	40	51	56	47	43	49	59	58	54	45	39	30	26	27	44	36	38	24	....	43.8
	Minimum	5	19	26	33	22	31	30	28	31	27	26	25	34	25	28	27	21	23	31	35	27	27	30	17	11	5	21	22	23	8	....	24.0
Williston	Maximum	58	63	68	61	59	57	56	65	54	50	40	56	39	51	53	48	44	51	62	61	55	56	43	37	35	39	46	49	39	31	....	50.9
	Minimum	25	32	30	35	28	34	27	32	30	25	26	30	24	22	21	27	25	23	30	39	34	34	31	31	30	26	22	29	20	15	....	27.9
Willow City	Maximum	39	47	57	47	51	50	54	62	38	36	35	40	46	54	47	43	48	48	58	56	51	46	..	..	..	..	34	36	40	34	....	[c]45.2
	Minimum	5	24	27	31	25	31	26	29	30	30	24	23	25	24	25	28	28	20	30	32	40	26	..	..	..	17	0	19	26	10	....	[c]24.3
Zap	Maximum	48	50	69	59	57	57	58	65	54	53	39	43	44	52	49	56	46	56	64	53	59	53	50	33	32	28	38	48	54	34	....	50.0
	Minimum	15	28	21	35	24	27	22	28	25	25	27	27	27	18	17	24	32	15	15	30	32	25	33	29	22	26	12	22	19	18	....	24.0

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

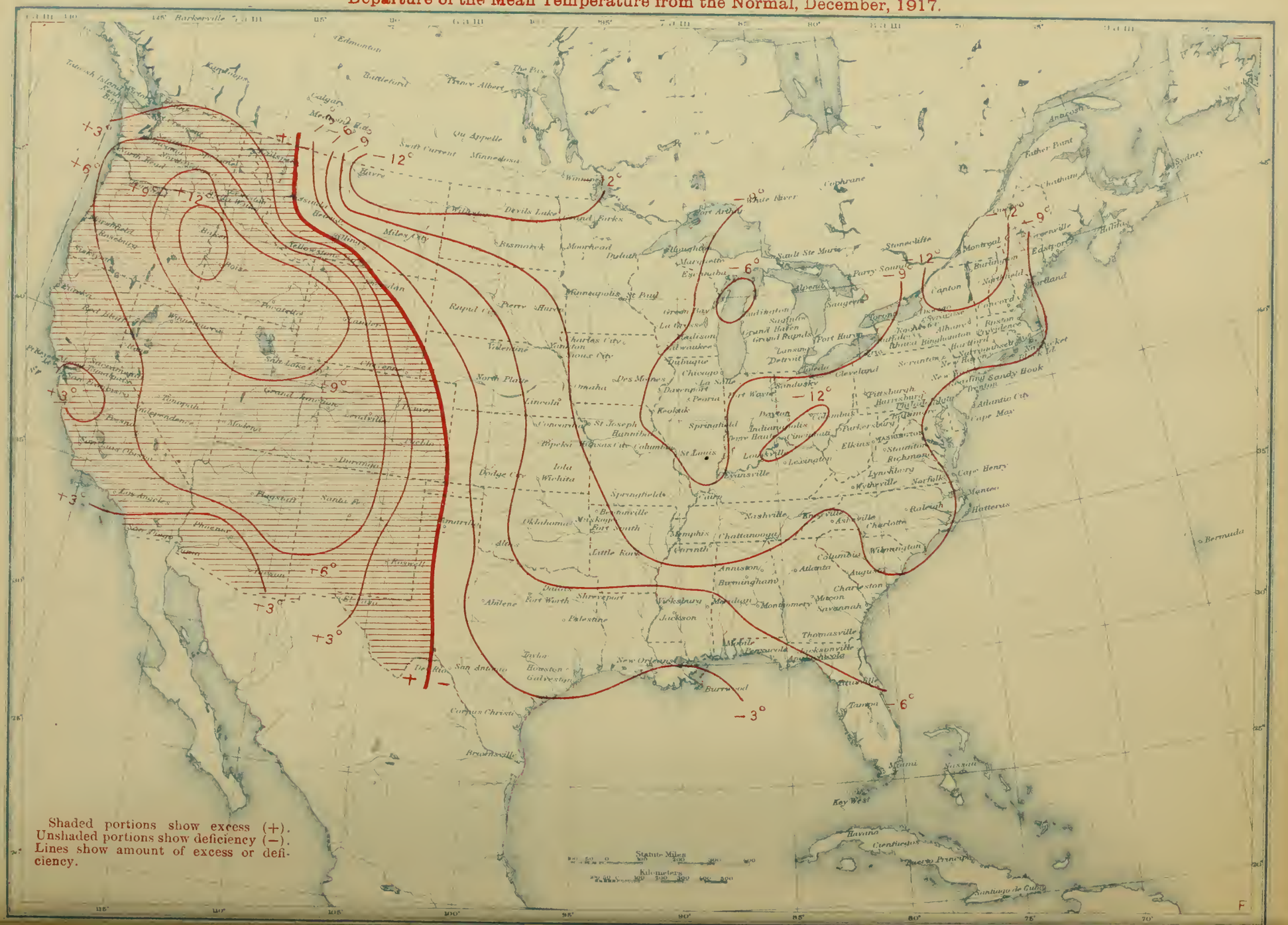
NORTH DAKOTA SECTION

DECEMBER, 1917

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 30, 1918.

Departure of the Mean Temperature from the Normal, December, 1917.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVI. BISMARCK, N. D., DECEMBER, 1917. No. 12.

GENERAL SUMMARY.

Cold, stormy and disagreeable weather prevailed over the entire State throughout the month. The temperature, which averaged more than twelve degrees below the normal, was the lowest of record for December in the history of the Climatological Service of the State. The precipitation, all of which occurred in the form of snow, was above the normal, and was in many instances accompanied by high winds. As a result of these unseasonable conditions, there was considerable suffering of livestock, outdoor work was delayed, and railway traffic interfered with to a large extent.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.39 inches. The highest was 31.18 inches at Bismarck, Burleigh County, and Williston, Williams County, on the 28th; the lowest was 29.51 inches at Ellendale, Dickey County, on the 23d.

TEMPERATURE.

The mean temperature for the State was 0.7°, or 12.2° below the normal, and 2.0° lower than the mean for December, 1916. The highest mean reported was 10.2° at Bierman, Bowman County; the lowest was -11.5° at Pembina, Pembina County. The highest temperature reported was 58° at New Salem, Morton County, on the 19th; the lowest was -44° at Pembina, Pembina County, on the 10th, and at Willow City, Bottineau County, on the 29th. The greatest monthly range of temperature was 95° at New Salem, Morton County; the least was 70° at Cando, Towner County. The greatest daily range was 64° at New England, Hettinger County, on the 15th. The distribution of temperature was fairly uniform, all stations showing departures decidedly below the normal. The middle decade was the warmest, and the last the coldest. Generally the highest temperature occurred on the 18th or 19th, and the lowest on the 29th.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 86 per cent, the average at 7 a. m. being 89 per cent, and at 7 p. m. 84 per cent.

PRECIPITATION.

The average precipitation for the State was 0.60 inch, or 0.06 inch above the normal, and 0.61 inch less than the average for December, 1916. The greatest monthly amount reported was 1.60 inch at Ashley, McIntosh County; the least was a trace at Parshall, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 0.60 inch at McHenry, Foster County, on the 24th. The average snowfall for the State was 7.4 inches. The average number of days with 0.01 inch or more of precipitation was 6. All of the precipitation occurred in the form of snow, and snow fell in some part of the State on every day of the month. The heaviest, however, occurred on the 3d-5th, 13th-14th, 23d-24th, 26th-27th, and 29th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 10.1 miles. The greatest wind movement was 10,526 miles at Ellendale, an average of 14.1 miles per hour; the least was 5,410 miles at Williston, an average of 7.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 49 miles per hour from the north at Ellendale on the 23d.

SUNSHINE AND CLOUDINESS.

There was nearly the usual sunshine; the average number of clear days was 9, partly cloudy days 9, and cloudy days 13.

ERRATA.

June, 1917, page 44: Minimum temperature and date at Amenia should be 30° on the 1st.

September, 1917, page 68: Mean temperature at Bowbells should be 52.8°; number of days partly cloudy and cloudy at McKinney should be 7 and 9, respectively.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.58	+0.04	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.02	−0.52	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.

Climatological Data for December, 1917.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	21	0.0	−12.6	47	19	−34	29†	51	0.22	−0.22	0.06	.....	6	18	6	7	s.	E. T. Carley.
Ashley	McIntosh	2,001	20	4.2	−9.8	47	19	−40	13	31	1.60	+1.15	0.50	16.0	5	11	8	12	nw.	R. C. Miles.
Beach	Golden Valley	2,576	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency††	McLean	2,082	23	2.8	−14.2	50	19	−39	13	49	0.40	+0.01	0.14	5.6	7	7	7	17	se.	C. L. Hall.
Bierman	Slope	.....	1	10.2	.....	55	16	−31	9	50	1.14	.....	0.20	9.3	11	6	3	22	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	43	3.2	−11.8	48	19	−37	29	45	0.59	−0.03	0.23	9.4	10	6	6	19	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	25	− 5.2	−12.7	35	17	−41	29	42	0.41	−0.14	0.09	.....	10	10	4	17	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	5	− 3.6	.....	45	19	−36	12	50	0.58	.....	0.53	.....	2	18	0	13	.....	G. H. Phelps.
Bowman	Bowman	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Workman.
Buford	Williams	1,944	38	5.6	−8.4	47	18	−34	8	42	0.08	−0.50	0.03	.....	4	9	12	10	ne.	P. Elmore.
Cando	Towner	1,488	16	− 5.1	−13.2	29	19	−41	29	40	0.26	−0.09	0.09	.....	8	.....	.....	.....	w.	E. T. Judd.
Carson	Grant	2,500	5	4.8	.....	50	19	−36	29	50	0.84	.....	0.30	8.4	9	6	16	9	s.	J. W. Evens.
Colgate	Steele	1,177	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. N. Grimwood.
Cooperstown	Griggs	1,428	7	.....	.....	.....	.....	.....	.....	.....	0.70	+0.35	0.30	8.0	3	11	20	0	nw.	S. Friswold.
Crosby	Divide	1,954	10	0.5	−12.9	46	17	−32	12	47	1.05	+0.53	0.30	10.5	6	8	2	21	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	13	− 3.6	−11.6	42	17	−34	14	33	0.66	+0.27	0.15	10.0	11	6	12	13	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	25	5.4	−13.0	48	19	−35	8	59	0.61	+0.16	0.15	9.0	9	8	0	23	se.	J. C. Thysell.
Donnybrook	Ward	1,760	18	− 1.1	−15.4	43	19	−35	29	45	0.55	+0.01	0.15	5.5	4	9	5	17	nw.	Geo. Michel.
Dunseith	Rolette	1,682	21	− 4.2	−13.4	38[a]	19	−40	29	35[a]	0.55	+0.16	0.25	4.3	3	8	7	16	n.	J. G. Lamont.
Eckman	Bottineau	.....	12	− 3.5	−13.1	43	18	−41	29	50	0.60	−0.02	0.20	6.0	6	11	11	9	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	16	4.2	−12.3	51	19	−36	29	48	0.16	−0.27	0.11	.....	3	3	14	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	.....	3.6	.....	51	19	−37	29	37	0.91	.....	0.30	9.1	12	3	11	17	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	5	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.12	.....	7	4	18	9	nw.	N. W. Solenberger.
Epping	Williams	2,224	9	.....	.....	.....	.....	.....	.....	.....	0.52	.....	0.10	8.2	10	11	5	15	se.	M. E. Uggen.
Fessenden	Wells	1,610	5	− 1.0	.....	43	19	−42	29	52	0.95	.....	0.40	9.8	7	13	6	12	nw.	G. T. Seymour.
Forman	Sargent	1,249	25	6.2	−8.8	41	19	−32	29	34	0.30	−0.19	0.20	3.0	2	15	4	12	nw.	A. Maltby.
Fullerton	Dickey	1,439	19	5.0	−9.2	50	19	−35	29	40	0.77	−0.09	0.25	7.7	6	11	9	11	nw.	F. O. Alin.
Garrison	McLean	1,901	22	1.2	−13.6	46	18	−37	13	52	1.12	+0.63	0.19	10.6	13	7	5	19	nw.	G. L. Robinson.
Grafton	Walsh	827	25	− 3.2	−11.4	40	17	−38	29	40	0.65	+0.15	0.20	8.0	6	.....	.....	.....	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	25	− 1.0	−12.3	38	19	−35	29	33	1.27	+0.77	0.53	12.9	8	5	9	17	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	5	3.6	.....	46	19	−39	29	37	0.15	.....	0.10	1.5	2	13	1	17	nw.	G. H. Leick.
Granville	McHenry	1,504	10	0.1	−12.3	42	17	−38	29	47	0.80	+0.34	0.20	8.0	7	12	10	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	12	− 1.4	−8.8	34	17	−38	29	41	0.90	+0.12	0.30	9.0	7	12	7	12	nw.	J. Moffatt.
Hansboro	Towner	1,597	9	− 3.2	.....	43	19	−40	29	55	0.47	.....	0.18	4.7	5	5	20	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	9	7.9	−8.8	51	19	−40	13	38	0.17	−0.25	0.08	.....	5	12	10	9	w.	U. J. Downey.
Hillsboro	Traill	901	11	− 0.3[a]	−12.9	43[a]	19	−34[a]	29	39[a]	0.78	−0.18	0.30	7.8	7	.....	.....	.....	n.	F. E. Mayall.
Howard	Williams	2,275	10	− 2.8	−16.0	40	17†	−40	29	43	0.72	−0.14	0.18	7.2	8	13	7	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	1.6[d]	−13.1	45[b]	17	−37	29	43[b]	0.45	−0.29	0.15	4.5	6	9	9	13	nw.	S. Calvelage.
Lakota	Nelson	1,579	16	− 4.2	−13.1	39	18	−40	29	51	0.72	−0.11	0.24	18.0	7	5	17	9	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	9	− 0.2[a]	−11.4	41[a]	19	−36[a]	13†	36[a]	0.10	−0.40	0.10	1.0	1	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	21	− 6.2	−14.9	36	17	−42	29	43	0.25	−0.91	0.10	2.5	4	10	8	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	22	− 1.3[a]	−12.8	39[a]	17	−35[a]	29	38[a]	0.40	+0.01	0.20	4.0	3	.....	.....	.....	nw.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	13	4.3	−9.8	42	1	−35	29	51	0.12	−0.39	0.10	1.2	2	10	9	12	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.40	7.0	3	19	2	10	s.	R. M. Rishworth.
McHenry	Foster	1,509	7	− 2.2	.....	45	18	−39	29	40	1.28	.....	0.60	12.8	6	17	10	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	23	− 3.2[a]	−14.5	35[a]	17†	−37[a]	27	45[a]	0.55	+0.12	0.25	5.5	4	.....	.....	.....	nw.	N. P. Swenson.
McLeod	Ransom	1,075	5	4.8	.....	47	19	−32	29	32	0.40	.....	0.20	4.0	4	14	5	12	nw.	R. D. Markland.
Maddock	Benson	1,604	2	− 1.8	.....	42	18	−42	29	47	0.51	.....	0.30	5.1	3	6	8	17	nw.	F. P. Cowing.
Mandan	Morton	1,644	3	3.2	.....	48	19	−37	13	59	0.19	.....	0.05	.....	6	.....	.....	.....	.....	No. Ct. Plains Field Sta.
Manfred	Wells	1,605	14	0.2	−11.9	40	17†	−38	29	42	0.62	−0.16	0.30	7.2	5	6	15	10	nw.	P. B. Anderson.
Manning	Dunn	2,450	2	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.06	.....	3	.....	.....	.....	.....	A. J. Bretziaff.
Marmarth	Slope	.....	8	7.4[b]	.....	45[b]	19	−35[a]	13	44[b]	0.40	.....	.....	12.9	10	.....	.....	.....	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	21	1.3	−12.6	43	19	−33	29	37	0.80	+0.33	0.20	.....	10	10	10	11	nw.	W. C. Gould.
Melville	Foster	1,590	19	2.4[c]	−9.9	42[c]	17	−36[c]	14	45[c]	0.40	+0.05	0.40	4.0	1	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	5	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.15	2.5	3	9	9	13	nw.	Hj. Edman.
Minot	Ward	1,557	21	− 1.4	−15.1	44	17†	−38	29	52	0.95	+0.58	0.30	9.5	9	12	6	13	nw.	W. I. Faris.
Minto	Walsh	820	24	− 1.6[b]	−12.5	42[b]	18	−37[a]	29	34[b]	0.68	+0.22	0.14	.....	10	17	3	11	se.	C. M. Evans.
Mott	Hettinger	2,424	10	2.1	−13.3	52	1	−34	29	46	1.32	+0.75	0.33	12.8	13	5	11	15	nw.	O. H. Opland.
Napoleon	Logan	1,955	25	2.6	−10.4	47	19	−38	29	42	0.15	−0.34	0.10	2.0	2	7	5	19	w.	C. J. Hoof.
New England	Hettinger	2,400	23	9.0[b]	−9.5	54[d]	19	−31	8†	64[d]	0.90	+0.48	0.20	9.0	7	4	14	13	nw.	J. M. Connolly.
New Salem	Morton	2,163	12	2.6	−13.3	58	19	−37	29	54	0.83	+0.36	0.25	8.2	7	11	9	11	se.	J. Christianson.
Orange ††	Adams	2,586	8	7.2	.....	50	19	−39	13	46	0.60	.....	0.20	6.0	3	8	10	13	nw.	T. F. Young.
Oriska	Barnes	1,270	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Taylor.
Park River	Walsh	998	13	− 2.7[c]	−13.8	40[c]	18	−32[c]	28	38[c]	0.51	−0.06	0.27	8.8	4	.....	.....	.....	nw.	O. J. Sieker.
Parshall	Mountrail	.....	2	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	11	6	14	.....	J. A. Johnson.
Pembina	Pembina	789	43	−11.5	−18.1	28	1	−44	10	36	0.10	−0.75	0.10	1.0	1	6	16	9	nw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Radcliffe.
Powers Lake	Burke	2,205	2	.....	.....	.....	.....	.....	.....	.....	1.08	.....	0.15	10.8	11	4	21	6	nw.	C. Frank.
Sanish	Mountrail	2,260	.....	3.6[a]	.....	46[a]	18†	−38[a]	13	48[a]	0.60	.....	0.20	6.0	7	.....	.....	.....	nw.	E. H. Senechal.
Searing	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	20	− 0.6	−15.0	46	19	−38	27	50	1.46	+1.08	0.36	12.0	9	5	21	5	se.	H. S. Wood.
Taylor	Stark	2,493	1	5.7	.....	49	19	−31	8†	48	0.79	.....	0.13	.....	13	10	6	15	se.	H. Leutz.
Towner	McHenry	1,482	15	− 2.4	−13.2	36	16	−42	29	51	1.00	+0.65	0.40	10.0	4	8	8	15	nw.	B. Bagley.
Wahpeton	Richland	962	23	2.4	−13.1	47	19	−30	13†	36	0.15	−0.28	0.05	.....	5	10	8	13	se.	F. E. Smith.
Walhalla	Pembina	966	10	− 3.6	−13.1	40	16	−31	27	49	0.30	−0.85	0.10	3.0	3	11	13	7	nw.	Ivan Lee.
Washburn	McLean	1,734	18	3.3	−11.6	48	17	−33	29	44	0.52	+0.24	.....	.....	3	.....	.....	.....	nw.	J. T. McCulloch.
Watford	McKenzie	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. Johnson.
Westhope	Bottineau	1,508	11	− 4.1[b]	−14.1	39[c]	19	−40	29	38[c]	0.40	+0.06	0.15	4.0	4	1	12	18	nw.	W. A. Meddaugh.
Williston	Williams	1,875	38	2.0	−11.6	44	17	−29	12	40	1.00	+0.34	0.43	8.7	16	4	5	22	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	25	− 5.2	−14.9	36	18	−44	29	44	0.80	+0.38	0.20	8.0	6	5	13	13	nw.	M. A. Ostby.
Zap	Mercer	1,800	4	0.5	.....	42	17	−41	13	43	0.24	.....	0.05	7.8	10	3	8	20	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	36	2.6	−8.1	45	19	−29	29	29	0.55	−0.19	0.11	5.5	11	10	7	14	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	0.7	−12.3	58	19	−44	10†	64	0.60	+0.06	0.60	7.4	6	9	9	13	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for December, 1917.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red				.05			T.				T.	.02		.01					.03	T.				.05		T.	.06					0.22
Ashley	Missouri				.30	.50															.20							.30		.30			1.60
Beach	Lit. Missouri																																
Berthold Agency	Missouri	T.	T.	*	.14	T.	T.		.02		T.			T.	T.				T.	.04				.06			.08			.06			0.40
Bierman	Lit. Missouri				*	.08			*	.15		T.	.20		.10						.05		.05				.15	.18		.18			1.14
Bismarck ***	Missouri			T.	.10	.08	T.		.02		.01	T.		.04	.01				T.		.04		T.	T.		T.	.23		.02	.04	T.	T.	0.59
Bottineau ‖ ‖	Mouse		.08		.04		.01	.02				T.			.08	T.			T.	.09				.02			.01	.07			.04		0.41
Bowbells ‖ ‖	Mouse																								.05					.53			0.58
Bowman	Grand																																
Buford	Missouri				T.	.01	T.		.02		T.			T.	.02						T.		T.	T.			.03						0.08
Cando	Sheyenne			.08			T.							.01	.01				.01	.02		.03	.09				.01						0.26
Carson	Heart				.02	.30						.04	.02	.01							.10			.10				.05	.20				0.84
Colgate	Sheyenne																																
Cooperstown	Sheyenne			T.			T.					T.		T.						.20				.30			.20						0.70
Crosby	Mouse	T.		.15										T.					.05				.15	.30			.30		.10				1.05
Devils Lake ***	Sheyenne	T.	.02	.10	.02		.04					T.		.02		T.			.12				.01	.15			.12			.05	.01	T.	0.66
Dickinson ‖ ‖	Heart		T.	T.	T.	.15				T.	T.	T.	T.	T.	.07	.07					.04	.02	T.	T.	.06		T.	.06	.04	T.	.10		0.61
Donnybrook	Mouse			.15		T.								T.					T.				T.	.20			.10			.10			0.55
Dunseith	Mouse		.25	T.	T.		T.							T.					.25				T.			.05						0.55
Eckman	Mouse	T.	T.	.10			T.												.10					.20			.10			*	.10		0.60
Edgeley	James											.11									T.			.03		.02	T.				T.		0.16
Ellendale	James			.17	.19	.18	.01	T.	T.	T.	T.	.01		.02	T.	T.			T.		.03			T.		.02	.05	.15	.06			.02	0.91
Energy	Missouri			T.	T.	.12	T.		T.	T.	T.			.01				.01	T.	T.	.01			.02		T.	.04	T.	T.	.03	T	T.	0.24
Epping	Missouri		T.	.04	.02				.10	.04					.08	.04			.03			.03		.08			.06						0.52
Fessenden ‖ ‖	James		T.		.03		T.					.05			T.					.05	.02				.40		.20	.20					0.95
Forman	Sheyenne				.20																			.10									0.30
Fullerton	James			T.	.20							.09		.06		T.					.12			T.				.05	T.	.25	T.		0.77
Garrison	Missouri		T.	.09	T.	.12	.10		T.	.09		T.		.09					.02		.05		.09	.10			.19		.05	.11		.02	1.12
Grafton ‖ ‖	Red				.04			.06												.06					.15	.08		.20				.06	0.65
Grand Forks	Red		T	.09			.14					.01		.01		.02			.15					.53		T.	.32			T.	T.		1.27
Grand Rapids	James				.10			.05				T.			T.									T.			T.			T.			0.15
Granville	Mouse		.10	.20			T.												.05				.05	.20			.10			.10			0.80
Hannah	Pembina	.2				T.	.10							T.		T.			.10					.20			.30						0.90
Hansboro	Red	T.	.10	.02	.02		T.							T.					T.	T.				.18			.15						0.47
Hettinger	Grand				T.		.01		T.			T.	T.	T.	.08						T.			T.	T.	.04	.03	.01	T.	T.			0.17
Hillsboro	Red				.05											.05				.03	.30			.10			.05	.20					0.78
Howard	Missouri				.18		.07			T.					.02				.07				.05	T.			.12			.10	.11		0.72
Jamestown ‖ ‖	James				.15		.15								.05						.02			.05				.03					0.45
Lakota	Sheyenne		.04	.04			.08									T.	T.	T.					.08	.24	T.		.12	.12		T.		T.	0.72
Lamoine	Missouri			.10										T.							T.												0.10
Langdon ‖	Pembina			.05	.05			.10							.05				T.														0.25
Larimore ‖	Red											T.				T.					.10						.20	.10					0.40
Linton	Missouri																																
Lisbon ‖	Sheyenne			T.	.10				T.																.02					T.			0.12
McClusky	Missouri						.15												T.				.15				.40						0.70
McHenry	James			.12			T.							.10				T.	.20	.11				.60						.15			1.28
McKinney	Mouse	T.		.10										T.					T.			.25			.10			.10				0.55
McLeod	Sheyenne				.20		T.								.05	.10	T.			T.				T.	T.	T.				.05			0.40
Maddock	Sheyenne				.30															.13				.08									0.51
Mandan ‖	Missouri				T.	.05	T.	T.		T.		T.	T.		.03	T.					.03				T.	T.	T.	.04	.02	T.	.02			0.19
Manfred	Sheyenne				.08		T.					T.		T.					.07		.02		T.	.30		.15							0.62
Manning	Knife				.04										.05															.06			0.15
Marmarth	Lit. Missouri				T.	.01	.01		T.		T.	*	.02	T.	T.						.06			.06			*	*	.17	.07			0.40
Marstonmoor	James																																
Mayville	Red					.10						.02					.08			.06	.09			.20	.10		.10	.04			.01		0.80
Melville	James						T.							T.					T.	T.				.40			T.						0.40
Milnor	Red				.15					T.					T.									.02				T.			.05		0.22
Minot ‖	Mouse		.05		.10					.05					.05						.05			.05	.30			.10			.20		0.95
Minto	Red				.01		.03		.04	.03						.02					.08			.08	.12	.12	.14						0.67
Mott	Cannon Ball				.05	.06			.06		.03	.08		.11	.20							.02	.04		.06		.16	.33		.12				1.32
Napoleon ‖	Missouri				.10																T.										.05		0.15
New England	Cannon Ball				T.	.20			.10					.10	.10						T.						.10	.10	.20				0.90
New Salem	Heart				.20		T.			T.		T.		.04		T.					.10			.02		T.	.15	.25		.07			0.83
Orange	Cannon Ball						.20					.20															.20						0.60
Oriska	Sheyenne																																
Park River	Red			T.			T.							T.	T.	T.			.27					.10			.08	T.		T.	.06	T.	0.51
Parshall	Missouri						T.																	T.			T.						T.
Pembina ‖	Red																				.10												0.10
Power	Sheyenne																																
Powers Lake	Missouri			.15	.05			.10	.15					.08	.15			.05					.07			.05		.10			.13		1.08
Sanish	Missouri				.10			.05							.05				.05				.05	.10						.20			0.60
Searing	Lit. Missouri																																
Steele	Missouri			T.	.13	.24			T.	T.		T.	T.	.06	.06	.13			T.		T.		T.			T.	.06	T.	.06	.36	T.	.36	1.46
Taylor	Heart					.13	.02	T.	T.	.11		.03	.04	.06	.02						.10	.10	.01					.11	.05	.01		T.	0.79
Towner	Mouse			.40															.20				.20				.20						1.00
Wahpeton ‖	Red				.05							T.			T.		.03				T.	.01			.03	T.		T.		.03		0.15
Walhalla	Pembina					.10			.10									T.					T.	.10					T.	T.		T.	0.30
Washburn	Missouri											.05															30			.17			0.52
Watford	Lit. Missouri																																
Westhope	Mouse		.05																.15					.10			.10			T.			0.40
Williston ***	Missouri	.01	.01	.02	.05	.01	.01		.01		T.	T.		.02	.63			T.	.02		T.		.03	.40	T.	.05	.15	.08	.10	T.			1.00
Willow City	Mouse	T.	.10	.10			T.					T.		T.					.20				.10	.10			.20			T.			0.80
Zap	Knife				.02	.03	.01			.02					.01	.02								.01			.05		.04	.03			0.24
Moorhead, Minn ***	Red			.04			.01			T.		.11		.03		.02			.02		.05			.06				.10		.04	.07		0.55

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1917.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	36	32	26	9	6	9	−6	−5	8	5	5	−13	−9	−2	14	23	38	27	47	19	29	26	32	−5	−15	9	−2	−17	6	11	17	9.2
	Minimum	8	8	5	3	−10	−16	−18	−14	−22	−14	−14	−22	−32	−30	−27	4	5	17	12	19	2	1	2	−16	−25	−2	−18	−26	−34	−34	−6	−9.3
Ashley	Maximum	30	37	28	22	8	3	6	−8	3	−2	3	−6	−10	−12	11	30	42	41	47	36	29	28	41	13	7	10	1	−14	−8	14	23	14.6
	Minimum	12	26	14	3	−4	−8	−19	−22	−17	−26	−12	−25	−40	−28	−17	−2	20	24	19	21	14	−1	13	−17	−24	−8	−20	−23	−38	−9	−1	−6.3
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Berthold Agency	Maximum	29	20	26	19	9	8	2	15	−4	−3	−1	−6	−8	−9	19	33	46	48	50	33	31	26	25	4	−1	0	−6	−12	−1	19	32	14.6
	Minimum	16	21	15	−3	−5	−11	−22	−34	−20	−34	−18	−33	−39	−33	−10	−10	−19	23	21	21	0	−1	0	−26	−26	−12	−23	−28	−36	−4	11	−9.1
Bismarck	Maximum	33	35	26	13	8	12	−9	−7	−10	−5	−1	−9	−8	−6	15	32	46	36	48	29	32	28	29	−9	3	−2	−13	−14	8	20	28	12.5
	Minimum	16	22	12	5	2	−12	−18	−22	−24	−26	−13	−31	−33	−26	−6	7	25	23	26	21	11	2	−9	−21	−16	−14	−20	−32	−37	8	8	−6.0
Bottineau §§	Maximum	24	23	15	4	2	−6	−7	−10	−10	−8	−8	−15	−11	−3	9	30	35	34	33	20	17	21	21	4	−10	−12	−17	−16	0	2	29	6.1
	Minimum	4	7	−10	−7	−13	−16	−27	−25	−19	−34	−30	−32	−38	−33	−32	−5	9	2	0	15	0	−13	4	−33	−32	−17	−24	−32	−41	−29	−13	−16.6
Bowbells §§	Maximum	30	24	26	1	13	6	−5	−10	−7	−5	−10	−25	−11	−3	−5	10	37	40	45	37	25	25	20	−5	−12	−13	−15	−7	11	12	40	8.8
	Minimum	6	6	−1	−12	−13	−11	−24	−27	−26	−29	−25	−36	−35	−32	−28	−28	−8	10	5	5	8	0	5	−31	−31	−26	−28	−30	−31	−23	−10	−16.1
Cando	Maximum	21	18	20	10	−6	1	−8	6	−6	−14	−14	−17	−10	−10	−1	25	26	27	29	24	28	20	20	10	−15	−15	−19	−20	−9	−1	13	4.3
	Minimum	4	8	10	−6	−22	−18	−28	−22	−31	−34	−31	−32	−35	−37	−15	−11	20	15	20	−4	6	6	−5	−30	−37	−19	−30	−32	−41	−13	−5	−14.5
Carson	Maximum	30	40	30	20	12	15	0	−10	−6	−5	0	−10	−10	−8	35	30	44	40	50	35	30	33	40	25	5	0	−5	−15	0	25	32	16.2
	Minimum	11	22	16	10	−4	−10	−25	−30	−26	−30	−15	−30	−30	−33	−10	15	26	18	26	20	7	1	0	−25	−20	−8	−24	−32	−36	−1	15	−6.5
Crosby	Maximum	27	30	15	16	4	9	−13	−5	−10	−2	−4	−15	−9	−4	12	42	46	28	38	33	30	23	28	14	3	−10	−16	−20	15	13	40	11.5
	Minimum	15	11	−2	−18	−6	−15	−21	−28	−22	−24	−18	−32	−30	−29	−10	−5	7	9	22	10	6	2	10	−28	−22	−18	−27	−30	−25	3	10	−10.5
Devils Lake	Maximum	21	29	11	5	−6	8	−8	−6	−10	−5	−4	−11	−11	−9	7	28	42	32	39	21	26	21	24	−8	−9	−14	−19	−17	−3	1	14	6.1
	Minimum	−2	4	−2	−12	−20	−19	−23	−20	−22	−26	−21	−29	−30	−34	−9	−5	24	9	11	11	6	−1	8	−29	−29	−19	−31	−30	−33	−9	−11	−13.2
Dickinson	Maximum	32	32	38	22	14	10	−10	0	−17	0	−6	−4	−4	3	38	38	40	43	48	25	29	31	35	15	7	−3	−5	−19	29	30	35	17.0
	Minimum	6	18	22	14	−3	−15	−25	−35	−23	−23	−8	−21	−34	−28	−20	10	27	18	22	22	4	−3	15	−22	−22	−5	−22	−21	−30	−19	12	−6.1
Donnybrook	Maximum	24	30	16	11	4	7	−7	−4	−5	−5	−3	−12	−11	−8	14	35	40	41	43	27	26	19	19	2	−12	−11	−16	−12	−8	13	25	9.1
	Minimum	8	15	0	−17	−9	−10	−22	−24	−20	−27	−16	−32	−31	−28	−12	−10	14	10	12	18	18	2	2	−28	−29	−29	−25	−27	−35	−9	1	−11.3
Dunseith	Maximum	16	24	15	11	0	6	−8	−4	−6	−8	−3	−10	−10	−9	5	30	33	37	38	23	18	13	20	....	−12	−15	−21	−12	−12	−2	7	5.5
	Minimum	3	10	−3	−7	−14	−16	−23	−18	−20	−29	−18	−28	−35	−32	−19	−2	13	2	6	10	2	−7	0	−27	−32	−22	−31	−34	−40	−12	−11	−14.0
Edgeley	Maximum	28	38	29	20	9	8	9	−5	−5	−3	2	−6	−11	−11	8	22	40	40	51	34	33	23	35	27	27	10	0	−12	−9	15	12	14.8
	Minimum	11	23	13	4	−5	−10	−20	−20	−16	−26	−15	−24	−32	−27	−18	−3	25	25	17	20	8	5	17	−20	−21	−8	−20	−24	−36	−9	−8	−6.3
Fessenden §§	Maximum	30	27	16	6	5	12	−9	−7	−8	−3	4	−13	−10	−1	15	35	42	42	43	24	31	27	24	5	−5	−10	−16	−25	10	5	36	10.7
	Minimum	5	8	1	−7	−12	−12	−22	−22	−20	−27	−25	−32	−35	−35	−28	−10	19	18	14	20	9	−2	5	−27	−25	−17	−23	−36	−42	−30	−12	−12.8
Forman	Maximum	29	35	32	23	9	9	8	−4	−3	5	4	−3	−5	−3	10	34	35	34	41	36	32	26	35	22	5	19	13	10	−3	12	15	16.2
	Minimum	15	24	16	6	−7	−10	−18	−14	−12	−22	−9	−21	−31	−25	−14	0	19	25	20	20	7	4	18	−12	−17	−1	−15	−22	−32	−3	−6	−3.8
Fullerton	Maximum	30	37	24	18	10	7	8	−4	−5	−3	3	−4	−9	−11	9	29	38	40	50	36	32	25	36	25	14	8	7	−14	−2	14	14	14.9
	Minimum	13	20	15	7	−4	−8	−19	−17	−14	−23	−14	−23	−33	−28	−14	−4	18	26	18	20	7	5	16	−15	−4	−9	−18	−24	−35	−2	−7	−4.8
Garrison	Maximum	27	30	25	15	7	8	0	−11	−6	−6	−4	−14	−8	−7	16	30	42	46	42	31	31	25	24	9	−5	−10	−4	−6	−6	16	26	11.7
	Minimum	13	23	10	−11	−3	−5	−22	−30	−20	−29	−18	−30	−37	−32	−15	−10	−10	20	20	20	9	9	9	−27	−25	−15	−22	−24	−35	−9	4	−9.4
Grafton §§	Maximum	26	31	16	5	7	9	6	−4	−8	−2	0	−9	−9	0	8	27	40	20	37	18	27	26	28	−8	−8	−7	−18	−13	3	5	20	8.4
	Minimum	5	11	−3	−3	−18	−20	−22	−21	−20	−25	−24	−27	−31	−31	−26	−3	−1	9	5	12	0	−8	−8	−25	−30	−21	−23	−33	−38	−35	−9	−14.9
Grand Forks	Maximum	22	33	16	6	1	11	8	−5	−10	−4	3	−12	−9	−10	6	25	34	37	38	19	25	21	26	4	−8	−2	−12	−17	−2	5	14	8.5
	Minimum	6	12	2	−14	−16	−19	−20	−22	−20	−23	−13	−22	−23	−27	−10	0	19	10	10	3	5	0	4	−19	−28	−12	−30	−32	−35	−3	−5	−10.4
Granville	Maximum	24	30	15	5	5	10	5	−5	−8	0	−4	−8	−5	−8	−14	35	42	28	40	27	28	25	25	5	−5	−8	−16	−16	−5	8	22	9.9
	Minimum	10	8	5	−12	−6	−15	−20	−20	−18	−26	−10	−29	−28	−33	−10	−12	30	10	12	18	5	5	5	−27	−32	−16	−25	−28	−38	−8	−4	−9.7
Hannah	Maximum	29	27	24	21	19	17	−4	−3	−6	−7	−6	−7	−3	−4	5	20	34	21	25	26	29	28	19	−6	−4	−6	−10	−21	−14	11	30	9.7
	Minimum	10	9	−3	−14	−12	−15	−25	−21	−22	−19	−15	−32	−35	−37	−15	5	16	2	0	9	12	13	6	−35	−32	−23	−29	−34	−38	−15	−3	−12.6
Hansboro	Maximum	17	28	18	10	6	8	−8	−6	−8	−3	−3	−6	−8	−6	7	30	33	38	43	25	27	20	22	14	−10	−10	−18	−15	−9	1	9	8.2
	Minimum	2	14	3	10	−22	−18	−24	−21	−20	−30	−18	−32	−36	−34	−18	−15	15	10	6	5	3	10	6	−28	−36	−22	−34	−34	−40	−32	−14	−14.5
Hettinger	Maximum	32	44	31	22	20	15	−3	−2	−2	−2	3	−8	−6	−8	39	43	43	41	51	39	35	36	40	3	−5	−2	−5	13	5	37	39	19.1
	Minimum	21	19	16	14	3	−3	−23	−30	−28	−25	−8	−23	−40	−25	−10	10	31	29	29	21	15	2	2	−18	−13	−5	−20	−28	−25	5	6	−3.3
Howard	Maximum	28	27	15	5	5	−5	−18	−15	−15	−3	−8	−21	−9	−14	15	35	40	32	40	26	20	25	22	−8	−11	−14	−19	−11	3	19	30	7.0
	Minimum	3	15	5	−20	−10	−20	−28	−32	−38	−28	21	−32	−32	−39	−18	0	20	17	22	9	8	0	−8	−32	−22	−22	−27	−29	−40	1	10	−12.8
Jamestown §§	Maximum	25	35	28	25	15	13	−4	−4	−6	−3	−1	−11	−15	0	8	36	45	36	38	....	....	....	....	....	....	....	....	−13	−10	11	23	11.8
	Minimum	1	1	9	8	−4	−4	−18	−20	−15	−20	−20	−22	−31	−26	−10	−6	17	26	15	24	10	5	4	−15	−24	−15	−18	−25	−37	−31	−22	−8.5
Lakota	Maximum	17	28	16	23	16	10	−3	−6	−9	−3	−4	−10	−14	−10	−4	−4	37	39	35	30	24	24	20	24	−3	−9	−11	−11	−10	2	10	6.4
	Minimum	12	12	−9	−26	−18	−20	−21	−17	−19	−29	−30	−30	−34	−36	−15	−24	20	10	7	10	4	4	−9	−27	−35	−18	−30	−33	−40	−10	−11	−14.7
Lamoine	Maximum	23	30	23	11	6	18	−6	−6	−10	−6	−5	−13	−10	−10	10	32	40	40	41	32	28	32	32	5	7	−14	−12	−20	−9	10	....	10.0
	Minimum	8	18	8	−11	−7	−7	−25	−26	−19	−29	−16	−32	−36	−34	−16	7	19	16	16	7	10	18	22	−27	−29	−29	−25	−30	−36	9	....	−10.3
Langdon	Maximum	23	28	25	15	2	9	−4	−3	−10	−12	−17	−18	−12	−4	7	24	36	25	34	20	15	23	24	3	−10	−20	−23	−20	−14	1	22	5.5
	Minimum	4	5	−10	−10	−20	−20	−26	−25	−22	−29	−22	−32	−38	−33	−33	−12	−4	1	1	11	3	−10	3	−30	−31	−23	−27	−37	−42	−35	−10	−17.8
Larimore §§	Maximum	26	32	16	5	1	−12	−7	0	−10	−3	1	−3	−7	−4	5	29	39	31	20	19	29	24	24	3	11	−6	−9	−15	2	....	25	7.9
	Minimum	4	17	0	0	−19	−18	−23	−15	−18	−25	−13	−27	−28	−29	−15	−9	23	11	7	17	4	13	3	−24	−27	−16	−24	−32	−35	−8	....	−10.5
Lisbon §§	Maximum	42	38	34	38	36	18	16	10	12	10	0	−12	−12	2	12	18	32	28	24	26	23	24	18	15	16	10	12	−4	−6	16	35	17.1
	Minimum	18	12	10	4	−3	−7	−12	−16	−18	−20	−19	−24	−30	−25	−20	−5	−3	23	16	12	8	10	−16	−12	−12	−12	−15	−23	−35	−32	−16	−8.5
McHenry	Maximum	30	28	18	15	3	13	−9	−6	−8	1	−4	−11	−8	−9	27	25	39	45	38	30	29	17	10	0	−8	−7	−15	−18	−6	−3	11	8.6
	Minimum	2	15	−4	−3	−14	−9	−22	−18	−20	−30	−20	−27	−33	−35	−13	11	15	12	13	15	9	−20	−25	−33	−34	−17	−23	−31	−39	−7	−13	−13.0
McKinney	Maximum	20	20	15	10	0	−2	−10	−10	−9	−5	−5	−11	−12	−10	6	33	35	32	32	35	27	0	12	−12	−20	−20	−8	2	19	....	19	5.3
	Minimum	15	14	0	−11	−7	−10	−20	−25	−20	−28	−11	−30	−31	−27	−10	−12	12	10	10	9	0	−25	−30	−20	−26	−27	−37	−8	−4	....	−4	−11.8
Maddock	Maximum	22	28	19	11	0	9	2	−7	−7	−2	−4	−12	−10	−10	7	34	36	42	40	28	26	19	23	13	−9	−10	−15	−20	−9	5	13	8.5
	Minimum	4	17	−2	−4	−16	−6	−22	−23	−20	−30	−13	−32	−32	−36	−15	−13	18	11	13	19	5	0	12	−29	−35	−17	−25	−31	−42	−12	−15	−12.0
Marmarth	Maximum	....	40	41	25	21	17	−5	3	....	−1	0	−10	−3	−6	36	37	41	40	45	34	30	43	40	−2	8	7	−5	−16	15	37	38	19.0
	Minimum	....	19	10	15	−5	−9	−23	−31	−32	−20	−11	−30	−35	−25	−7	10	25	20	34	17	15	9	−4	−20	−11	−6	−20	−27	−20	15	18	−4.3
Minot §§	Maximum	32	26	12	4	7	10	−5	−3	−3	−1	−4	−11	−10	−2	16	38	44	44	49	30	29	25	1	−10	−8	−13	−14	−14	11	35	10.9
	Minimum	9	8	0	−13	−18	−10	−19	−21	−23	−30	−31	−30	−34	−30	−28	−14	18	15	9	19	10	−2	1	−27	−31	−30	−25	−27	−38	−30	−7	−13.8
Mott	Maximum	52	45	34	21	22	12	−2	9	−13	−2	−9	−11	−8	−8	37	42	50	34	28	27	17	8	4	−3	−5	−5	−18	−18	6	24	34	13.5
	Minimum	24	22	11	8	6	−15	−22	−34	−27	−28	−23	−21	−37	−32	−9	23	27	22	14	10	−6	−31	−28	−23	−18	−11	−21	−32	−34	−7	8	−9.3
Napoleon §§	Maximum	30	34	25	15	6	13	0	10	12	3	−2	−10	−7	−2	14	34	40	38	47	25	28	28	31	11	6	3	−11	−17	−6	13	38	14.4
	Minimum	10	10	15	−4	−6	−5	−27	−26	−21	−32	−10	−27	−38	−35	−16	−4	13	22	20	22	10	−4	11	−20	−30	−11	−22	−25	−38	−10	−4	−9.1
New England	Maximum	40	40	42	27	22	24	10	10	−14	1	2	4	−3	−10	38	44	49	48	54	38	32	33	33	....	....	....	....	....	3	1	40	23.9
	Minimum	20	22	8	14	−2	−10	−24	−31	−31	−24	−9	−18	−31	−26	−26	10	18	20	34	22	18	3	−18	−20	−18	−20	−20	−25	−29	1	10	−5.9
New Salem	Maximum	31	33	27	20	−3	12	−5	−4	−4	−4	0	−12	−5	−12	0	25	46	38	58	33	31	25	30	31	1	7	−6	−10	−5	18	36	14.0
	Minimum	13	17	14	8	−14	−6	−25	−29	−22	−30	−16	−30	−34	−30	−25	−15	25	22	32	18	11	−1	5	−23	−26	−12	−26	−30	−37	−10	10	−8.9
Orange	Maximum	32	43	39	31	17	20	9	−3	−1	−1	1	−2	−6	−6	37	34	44	40	50	41	34	35	36	7	6	1	1	−11	−3	36	36	19.3
	Minimum	20	23	7	13	15	−11	−22	−30	−25	−29	−7	−19	−39	−27	−9	6	26	23	29	22	9	−1	1	−19	−11	−6	−21	−27	−36	−4	10	−4.9
Oriska	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Park River	Maximum	....	....	38	13	1	10	3	−4	−8	−3	−2	−6	−11	−10	12	19	30	40	37	22	26	22	20	10	....	−11	−15	−16	−10	2	5	7.6
	Minimum	0	1	0	0	−15	−15	−22	−12	−23	−24	−12	−26	−30	−27	−18	−8	17	8	2	4	−2	2	2	−24	....	−26	−27	−32	−28	−20	−9	−13.0
Pembina §§	Maximum	28	22	18	0	−10	−15	−20	−22	−20	−24	−18	−16	−10	−5	0	−2	5	10	20	18	5	−5	2	−10	5	3	10	12	10	5	10	−0.3
	Minimum	−5	−2	−8	−10	−22	−30	−32	−42	−40	−44	−41	−32	−28	−26	−22	−18	−20	−18	−12	−10	−14	−22	−28	−26	−28	−22	−20	−18	−16	−22	−26	−22.7
Steele	Maximum	34	35	33	4	11	−2	−8	−9	−10	−11	−13	−18	−9	−8	5	36	42	37	46	34	30	22	28	−10	−2	−6	−16	−18	−10	12	28	9.3
	Minimum	8	20	16	−4	−8	−20	−18	−16	−11	−26	−24	−20	−34	−33	−12	0	28	22	34	−24	−20	−12	−10	−30	−16	−24	−38	−26	−20	0	8	−10.3
Towner	Maximum	20	29	20	10	1	3	−8	−8	−11	−4	−6	−4	−12	−12	8	36	34	41	41	24	24	19	19	10	−11	−11	−19	−27	−5	4	20	7.3
	Minimum	8	14	−4	−7	−12	−12	−21	−23	−18	−33	−12	−30	−35	−37	−13	−15	14	8	10	19	5	0	5	−29	−38	−19	−27	−30	−42	−5	1	−12.2
Wahpeton §§	Maximum	30	32	23	10	5	9	−5	−6	−10	0	−6	−8	−10	−1	10	30	38	30	47	26	28	33	32	5	8	20	−7	−11	0	10	24	12.5
	Minimum	11	12	8	−2	−6	−14	−17	−17	−15	−22	−20	−20	−30	−28	−26	−1	5	27	20	23	1	2	5	−13	−20	−7	−11	−25	−30	−28	−5	−7.8
Washburn	Maximum	30	30	25	25	20	20	15	−8	−10	−10	−3	−8	−9	−9	14	29	48	45	45	35	29	30	29	29	−1	−1	−8	−16	−7	16	26	14.2
	Minimum	16	14	12	0	−6	0	−19	−24	−17	−30	−17	−31	−32	−32	−10	−4	24	23	25	23	9	1	0	−24	−24	−9	−22	−22	−33	−16	−7	−7.6
Watford	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Westhope	Maximum	20	27	20	23	....	....	....	....	....	....	6	6	12	13	13	19	30	28	28	39	22	28	18	25	−2	10	−10	−18	16	−4	4	10	6.9
	Minimum	6	6	3	−7	−12	−15	−23	−21	−20	−30	−18	−33	−35	−36	−15	−8	9	0	5	8	−3	−8	2	−32	−33	−22	−32	−32	−40	−14	−13	−15.1
Williston	Maximum	30	30	19	8	7	4	10	−6	14	0	−3	−18	−9	−2	25	37	44	33	43	27	23	27	26	−13	−8	10	12	−17	17	26	37	11.0
	Minimum	22	18	2	−1	−3	−18	−22	−28	−25	−20	−13	−29	−27	−26	−3	2	16	22	24	19	5	2	−13	−26	−20	−19	−23	−27	−23	10	20	−7.0
Willow City	Maximum	15	25	14	10	−3	5	−7	−8	−10	−4	6	−12	−12	−12	7	33	27	36	31	23	16	17	21	11	11	−15	−18	−25	−7	2	17	5.2
	Minimum	5	4	−9	−3	−15	−19	−25	−25	−20	−35	−12	−33	−38	−39	−18	10	8	4	7	15	−10	−14	11	−33	−37	−18	−25	31	−44	−7	15	−15.5
Zap	Maximum	28	28	28	19	8	10	0	−7	7	4	−6	−18	−10	−10	10	35	42	40	32	32	32	23	23	1	−7	10	−19	−9	−4	16	26	10.1
	Minimum	15	18	13	0	−5	−9	−26	−35	−22	−33	−15	−30	−41	−33	−13	−8	22	18	20	21	4	−3	1	−28	−20	−12	−27	−23	−37	−5	11	−9.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. *, 1 day missing. b, 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

1918

CLIMATOLOGICAL DATA

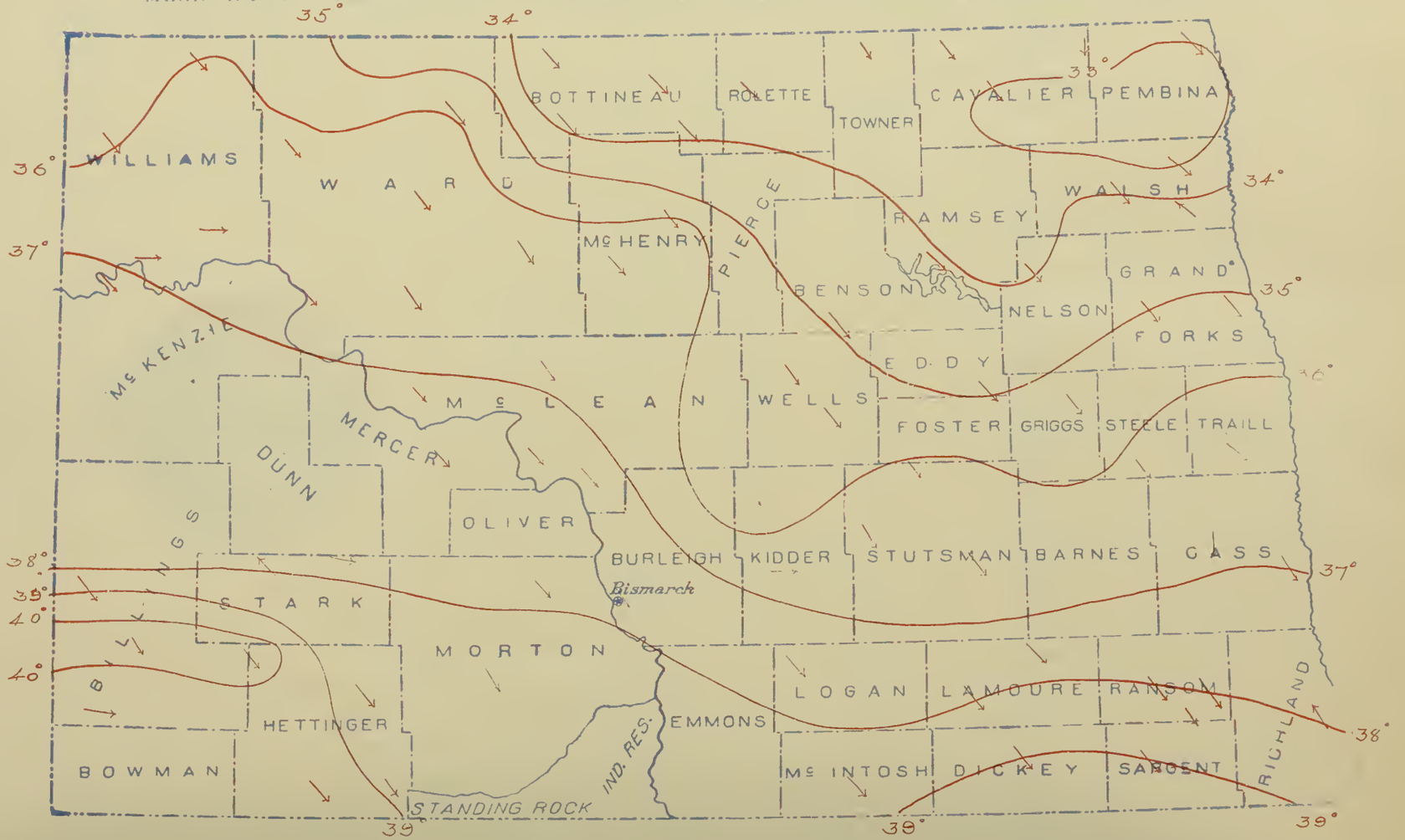
NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1917

BY
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BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 4, 1918.

MEAN ANNUAL TEMPERATURE AND PREVAILING DIRECTION OF THE WIND FOR THE YEAR 1917



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

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GENERAL SUMMARY.

From a crop standpoint the weather for the year 1917 was the most unfavorable of record in the climatological history of the State, covering the period 1892-1917. The year opened with severe cold, considerable snow and high winds, and this condition prevailed throughout the first two months. March was more favorable, but deficient in precipitation. April, the period when spring work begins, was generally favorable, and crops at the close of the month were in good condition. Conditions, however, became serious in May, due to lack of moisture, and this condition continued throughout June, July and August. The total average precipitation for the period, May to August, inclusive, was but 4.87 inches, while the normal for the period is 10.94 inches. High temperature also obtained during July and materially increased unfavorable crop conditions. Harvesting during August and September progressed nicely. Fall work started well in September, but was brought to a sudden stop in October by the most severe weather conditions of record for that month in the State, the mean temperature for October being lower than for the following November. December was also the coldest of record in the State. Crop yields were generally light, but of good quality, and, with the advanced prices obtained, farmers received fair returns on their investments.

The mean annual temperature was 36.3°, or 2.5° below the normal, and 0.3° higher than the mean for 1916. The highest mean annual temperature reported was 39.6° at Bierman, Slope County, and New England, Hettinger County; the lowest was 31.8° at Langdon, Cavalier County. The highest temperature reported was 114° at Colgate, Steele County, on July 28th; the lowest was -48° at Taylor, Stark County, on February 2d. The temperature averaged below the normal during nine months of the year, above the normal during two months, and was exactly the normal one month. During the past twenty-six years there have been but two colder years, 1893 and 1916. The highest mean annual temperature was 41.0° in 1900 and 1910. The lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was -56° at Goodall, McKenzie County, on January 12, 1916.

The average precipitation for the State was 10.89 inches, or 7.05 inches below the normal, and 9.43 inches lower than the average for 1916. The greatest annual precipitation reported was 17.20 inches at Lisbon, Ransom County; the least was 6.02 inches at Beach, Golden Valley County. The greatest monthly amount reported was 6.20 inches at Grand Rapids, LaMoure County, in June; there was none at Parshall, Mountrail County, and Washburn, McLean County, in March and November; at Bowbells, Burke County, Cooperstown, Griggs County, Donnybrook, Ward County, and Hansboro, Towner County, in May; at Orange, Adams County, in August; at Buford, Williams County, Napoleon, Logan County, and New England, Hettinger County, in November. The heaviest average annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.89 inches in 1917. The average snowfall for the year was 41.7 inches. The greatest depth of snowfall reported was 88.5 inches at Lakota, Nelson County; the least was 19.5 inches at Forman, Sargent County. The average number of days with 0.01 inch or more of precipitation was 60. There were 154 clear days, 111 partly cloudy, and 100 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather was severe over the entire State. The temperature was considerably below the normal, there was more than the usual precipitation, and the sunshine was deficient. Frequent high winds caused much drifting of snow, delaying railway traffic and interfering with outdoor work.

FEBRUARY.—Unusually severe weather conditions prevailed during the greater part of the month. The temperature was decidedly below the normal, being the lowest for February (with but one exception) in the climatological history of the State. There was an excess of precipitation, a deficiency in sunshine, and the wind movement was above the average. This combination of weather conditions resulted in the loss of several human lives, much suffering and loss of livestock, and one of the worst delays in railway and wagon traffic in years.

MARCH.—Seasonable weather as regards temperature and sunshine prevailed over the entire Section. The precipitation, which was mostly confined to the middle decade, was deficient. The accumulated snows disappeared rapidly and, owing to the dry condition in which the ground froze during the preceding fall, nearly all was absorbed. Very little field work was done in the central and western portions, but a few fields of wheat were sown in the eastern portion. Livestock generally came through the winter in poor condition, and much roughage was fed during the month.

APRIL.—Generally favorable weather prevailed. Excessive ground moisture in the eastern portion and frozen ground in other portions of the State delayed spring work on the farms. The temperature was below the normal, mostly due to low night temperatures. There was more than the usual cloudiness, and the precipitation was above the normal. Vegetation and foliage were very backward at the close of the month. Several serious floods occurred in the Missouri River Valley, but owing to timely warnings losses were reduced to a minimum.

MAY.—The weather of the month was unfavorable. The temperature was below the normal, and killing frosts occurred in various parts of the State, although the damage from this source was small, owing to the backward condition of vegetation. The most unfavorable condition, however, was the lack of precipitation, the average (0.30 inch) being the lowest of record in the State since the Climatological Service was established in 1892. The distribution of precipitation was uneven, both geographically and throughout the month. Nearly all of the precipitation occurred during the last decade. Winter rye suffered to the greatest extent of any crop, and in many instances fields were plowed up. Late sown grains were slow to germinate, and at the close of the month all crops were in a backward condition. The breaking of sod for flax was delayed to a considerable extent, and greatly lessened the acreage of that crop.

JUNE.—The weather was unseasonably dry and cool over the greater portion of the State. The precipitation was decidedly deficient, practically all stations showing minus departures, the deficiencies in the Missouri River Valley being the most marked. Better conditions prevailed in the eastern portion of the State than elsewhere. Small grains made fair progress, but at the close of the month showed a tendency to head short in many localities. Corn was very backward, although both stand and color were good. Pastures were in need of rain, and the indications were for a poor hay crop.

JULY.—The weather of the month was characterized by high temperature, excess of sunshine, and deficiency of precipitation. The mean temperature was, with but two exceptions, the high-

est of record for the month. All stations produced temperatures of 100° or more, the highest being 114° at Colgate, Steele County, on the 28th. The precipitation, as during the preceding two months, was decidedly deficient. Except in a few isolated localities, crops of all kinds suffered from lack of moisture. Pasture and range conditions were adversely affected, in many instances streams becoming dry and necessitating the pumping of water for livestock. Frost or freezing temperature occurred at a few stations in the northern and central portions of the State on the 2d and 3d, and did slight damage to corn, potatoes and garden truck. The intense heat caused early ripening of grain, and in a few localities harvest was begun.

AUGUST.—Favorable weather for harvesting and early threshing prevailed, but the conditions were decidedly unfavorable for the development of late grain, hay and pastures. The precipitation was, with but one exception, the lowest of record for the month. Light to heavy frosts were reported from all parts of the State, but no serious damage resulted. At the close of the month nearly all small grain, except late flax, was harvested. Rye threshing was nearly completed, and the threshing of wheat, oats, etc., was well under way. The second crop of alfalfa was, as a general rule, a failure. Pastures were exceptionally poor, and the hay crop was the lightest for many years. Less than the usual fall plowing was done, due to the dryness of the soil.

SEPTEMBER.—Seasonable weather prevailed, although there was more than the usual cloudiness, and the precipitation was somewhat deficient. Farm work made excellent progress, harvesting being practically completed and threshing well advanced. Corn suffered from killing frosts, the seed value of this crop in the eastern portion of the State being nil. The quality of grain produced was excellent, but the average returns were far below the normal. Pastures were short, but livestock was in fair condition.

OCTOBER.—The weather was the most severe in the climatological history of the State, covering the period 1892-1917. The mean temperature (34.7°) is the lowest of record for North Dakota for October. The wind movement was excessive, there was more than the usual cloudiness, and the precipitation, though somewhat deficient, occurred mostly in the form of snow. As a result of these unfavorable conditions farm work was greatly delayed. Owing to the freezing of the ground, fall plowing was stopped in practically all parts of the State, and thousands of acres of potatoes were destroyed. Flax threshing and corn harvesting were only partially completed at the close of the month. Owing to the poor condition of pastures and the scarcity of hay and other roughage, the farmers of the State faced a serious feeding problem at the close of the month.

NOVEMBER.—Mild and pleasant weather, favorable for fall work and for livestock, prevailed throughout the State during the entire month. Threshing made excellent progress and was practically completed. During the early portion of the month fall plowing made good headway, but dryness caused this work to stop during the latter part. There was but little cloudiness and no severe storms. The mean temperature was the highest of record for the State for November, and was higher than the mean for the preceding month (October).

DECEMBER.—Cold, stormy and disagreeable weather prevailed. The temperature, which averaged more than twelve degrees below the normal, was the lowest of record for December in the State. The precipitation, all of which occurred in the form of snow, was above the normal, and was in many instances accompanied by high winds. As a result of these unfavorable conditions, there was much suffering of livestock, outdoor work was delayed and railway and other traffic interfered with to a large extent.

NOTES.

Tables giving the daily temperature extremes and the daily precipitation, also tables showing the difference between the normals and the monthly averages of temperature and the total monthly amounts of precipitation at the several stations have been published regularly in the monthly report "Climatological Data, North Dakota Section," copies of which will be furnished on application at the Local Office of the United States Weather Bureau, Bismarck, No. Dak.

Indexes to special articles published in the several monthly and annual issues of this Bulletin will be found in the Annual Summary for 1905, and in the Monthly Summary for June, 1909.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	June 1	Sept. 10	Langdon	June 21	Sept. 9
Ashley	July 3	" 20	Larimore	" 1	" 11
Beach	June 1	" 19	Lisbon	" 1	" 10
Berthold Agency	May 23	Aug. 28	McHenry	" 21	" 10
Bierman	" 30	Sept. 19	McKinney	" 4	" 10
Bismarck	" 23	Oct. 5	McLeod	May 23	" 10
Bottineau	June 21	Sept. 10	Maddock	June 21	" 2
Bowbells	" 4	" 10	Mandan	May 27	Oct. 5
Bowman	" 1	.....	Manfred	June 21	Sept. 2
Buford	" 1	Sept. 26	Marmarth	" 1	" 20
Cando	" 1	" 10	Marstonmoor	July 3	Aug. 28
Carson	May 27	" 26	Mayville	June 1	" 29
Colgate	June 1	Aug. 29	Melville	July 2	Oct. 5
Cooperstown	.....	Sept. 10	Minot	June 21	Sept. 2
Crosby	June 21	" 26	Minto	" 4	" 9
Devils Lake	" 4	" 9	Mott	May 26	" 20
Dickinson	" 1	Aug. 9	Napoleon	" 29	" 10
Donnybrook	" 21	Sept. 10	New England	" 23	" 20
Dunseith	" 21	" 10	New Salem	June 21	" 10
Eckman	" 26	Aug. 28	Orange	" 1	" 20
Edgeley	May 27	Sept. 10	Oriska	.....	" 10
Energy	June 20	.....	Park River	June 4	" 9
Fessenden	" 21	Sept. 10	Parshall	.....	" 25
Forman	May 2	Oct. 5	Pembina	May 23	" 9
Fullerton	" 2	" 5	Sanish	June 3	" 26
Garrison	June 1	Sept. 26	Searing	" 13	Aug. 8
Grafton	" 1	" 9	Steele	May 29	Sept. 26
Grand Forks	May 27	" 10	Taylor	" 22	" 26
Grand Rapids	" 27	" 2	Towner	June 20	" 10
Granville	June 1	" 10	Wahpeton	" 15	" 10
Hannah	" 21	.....	Walhalla	" 3	" 10
Hansboro	May 27	Sept. 2	Washburn	May 30	Oct. 5
Hettinger	June 1	" 20	Westhope	June 21	Sept. 10
Hillsboro	" 1	" 10	Williston	May 3	" 26
Howard	July 2	" 27	Willow City	June 21	" 10
Jamestown	May 28	" 10	Zap	" 21	" 26
Lakota	June 1	" 2	Moorhead, Minn.	May 2	Oct. 7
Lamoine	" 21	" 11			

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−58	18.14	+0.20
1893	35.8	−3.0	112	−54	15.85	−2.09
1894	40.4	+1.6	107	−47	16.10	−1.84
1895	37.8	−1.0	104	−50	19.09	+1.15
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.46	−2.48
1899	36.3	−2.5	109	−48	17.93	−0.01
1900	41.0	+2.2	114	−48	19.05	+1.11
1901	40.4	+1.6	110	−43	18.48	+0.54
1902	39.6	+0.8	106	−39	17.61	−0.33
1903	38.4	−0.4	108	−49	19.30	+1.36
1904	38.0	−0.8	103	−52	19.19	+1.25
1905	39.3	+0.5	107	−46	20.88	+2.94
1906	39.5	+0.7	109	−40	20.53	+2.59
1907	37.0	−1.8	104	−49	14.89	−3.05
1908	40.6	+1.8	104	−41	18.79	+0.85
1909	38.2	−0.6	109	−48	17.77	−0.17
1910	41.0	+2.2	114	−50	12.34	−5.60
1911	38.3	−0.5	108	−43	19.09	+1.15
1912	38.2	−0.6	124	−52	20.50	+2.56
1913	40.1	+1.3	106	−54	14.92	−3.02
1914	40.0	+1.2	109	−47	19.21	+1.27
1915	39.6	+0.8	104	−48	19.51	+1.57
1916	36.0	−2.8	105	−56	20.32	+2.38
1917	36.3	−2.5	114	−48	10.89	−7.05

Climatological Data for the Year 1917.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	22	35.9	106	July 28	−37	Jan. 15	22	11.69	2.21	Apr.	0.15	Mar.	.....	49	219	64	82	n.
Ashley	McIntosh	2,001	21	37.9	108	July 28	−40	Dec. 13	21	12.73	1.98	July	0.20	Nov.	57.0	46	212	69	84	nw.
Beach	Golden Valley	2,576	12	38.5	110	July 27	−43	Feb. 2	12	6.02	1.49	Aug.	0.06	Nov.	.....	55	219	93	53	nw.
Berthold Agency	McLean	2,082	24	38.0	103	July 23†	−45	Feb. 2	24	9.81	2.57	Apr.	T.	Nov.	34.3	54	186	98	81	nw.
Bierman	Slope	.....	2	39.6	104	July 27	−38	Jan. 31	2	12.55	2.44	June	0.05	Sept.	39.6	72	.....	.....	.....	nw.
Bismarck	Burleigh	1,674	43	38.6	107	July 28	−39	Feb. 2	43	11.43	2.15	June	0.04	Nov.	41.7	89	129	115	121	uw.
Bottineau	Bottineau	1,638	26	34.0	104	July 27	−42	Feb. 2	26	9.32	1.91	June	0.02	May	.....	98	154	82	129	nw.
Bowbells	Burke	1,958	6	33.6	103	July 27	−43	Feb. 2	6	11.87	1.92	Apr.	0.00	May	.....	48	.....	.....	.....	.....
Buford	Williams	1,944	39	.....	105	July 27	−44	Feb. 2	39	7.27	2.00	June	0.00	Nov.	.....	45	.....	.....	.....	nw.
Cando	Towner	1,488	16	34.3	105	July 28	−44	Jan. 14	17	10.12	2.99	June	0.12	Nov.	.....	57	.....	.....	.....	.....
Carson	Grant	2,500	6	37.8	104	July 27†	−42	Feb. 2	6	10.11	1.85	June	0.09	Nov.	36.0	74	141	152	72	nw.
Colgate	Steele	1,177	3	37.6	114	July 28	−36	Jan. 14†	4	11.02	1.90	June†	T.	May	.....	65	153	99	113	nw.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	3	9.85	2.15	June	0.00	May	39.0	34	204	120	41	nw.
Crosby	Divide	1,954	10	36.7	105	July 27	−38	Feb. 2	10	9.79	2.14	June	0.02	Nov.	41.6	59	178	62	125	nw.
Devils Lake	Ramsey	1,478	13	34.7	106	July 28	−40	Jan. 14	13	10.47	1.69	June	T.	May	48.5	102	112	114	139	nw.
Dickinson	Stark	2,543	26	38.0	108	July 28	−44	Feb. 2	26	9.25	2.54	June	T.	Nov.	34.3	61	177	33	155	se.
Donnybrook	Ward	1,760	14	35.6	104	July 27	−41	Feb. 2	19	9.26	2.15	Oct.	0.00	May	.....	42	.....	.....	.....	nw.
Dunseith	Rolette	1,682	22	34.2	96	July 21†	−42	Feb. 2	22	12.20	3.61	June	T.	Mar.†	.....	63	159	96	110	nw.
Eckman	Bottineau	1,490	12	33.9	104	July 27	−47	Feb. 3	12	11.00	2.67	June	T.	Mar.	40.1	61	.....	.....	.....	nw.
Edgeley	LaMoure	1,468	17	37.9	110	July 28	−36	Dec. 29	17	10.41	2.90	June	0.10	Nov.	.....	55	43	191	131	nw.
Energy	McLean	1,750	.....	.....	.....	.....	.....	.....	5	6.52	1.38	July	T.	Nov.	.....	60	109	161	95	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	10	9.06	1.84	June	T.	May	47.7	59	208	84	73	w.
Fessenden	Wells	1,610	6	34.5	109	July 28	−46	Feb. 3	6	13.94	2.97	June	0.05	Mar.	38.6	72	201	86	78	nw.
Forman	Sargent	1,249	26	39.3	110	July 28	−32	Feb. 2†	26	13.10	3.79	Sept.	0.10	Nov.	19.5	58	.....	.....	.....	nw.
Fullerton	Dickey	1,439	20	38.7	108	July 28	−35	Feb. 2†	20	15.02	2.70	Apr.	0.18	Nov.	76.6	46	164	107	94	nw.
Garrison	McLean	1,901	23	36.9	104	July 28	−42	Feb. 2	23	11.17	2.12	Apr.	0.19	Nov.	36.6	61	139	138	88	nw.
Grafton	Walsh	827	26	33.4	104	July 28	−41	Jan. 15	26	11.05	2.72	July	0.14	Mar.	31.9	76	.....	.....	.....	nw.
Grand Forks	Grand Forks	830	26	34.6	106	July 28	−36	Jan. 14	26	13.65	2.84	July	0.23	May	44.1	83	202	87	76	nw.
Grand Rapids	LaMoure	1,321	7	37.6	112	July 28	−39	Dec. 29	7	16.24	6.20	June	0.05	Nov.	35.6	39	178	71	116	nw.
Granville	McHenry	1,504	11	36.8	101	July 27	−40	Feb. 2	11	8.58	1.50	July	0.04	Mar.	44.2	59	.....	.....	.....	nw.
Hannah	Cavalier	1,568	11	.....	100	July 21	−46	Jan. 14	13	.....	3.34	July	.....	.....	.....	.....	.....	.....	.....	nw.
Hansboro	Towner	1,597	10	33.7	101	July 28	−40	Jan. 14†	10	14.70	2.95	July	0.00	May	74.2	59	.....	.....	.....	nw.
Hettinger	Adams	2,253	10	38.7	105	July 23†	−42	Feb. 2	10	7.37	1.72	June	T.	Nov.	.....	53	.....	.....	.....	nw.
Hillsboro	Traill	901	12	35.9	106	July 28	−36	Jan. 15	12	14.21	2.83	Sept.	0.05	Mar.	.....	75	.....	.....	.....	nw.
Howard	Williams	2,275	9	34.3	107	July 27	−44	Feb. 2	9	11.31	3.05	Apr.	T.	Nov.	59.5	51	118	141	106	nw.
Jamestown	Stutsman	1,390	26	36.0	112	July 28	−39	Feb. 2	26	8.74	1.31	Aug.	0.10	May	31.4	59	144	54	167	nw.
Lakota	Nelson	1,579	17	33.6	105	July 28	−41	Feb. 2	17	11.09	2.24	July	T.	May	88.5	62	.....	.....	.....	nw.
Lamoine	Kidder	1,936	10	34.8	108	July 28	−45	Feb. 2	10	7.33	2.13	June	0.10	Mar.†	21.0	31	.....	.....	.....	nw.
Langdon	Cavalier	1,615	22	31.8	101	July 28	−45	Jan. 14†	22	15.28	2.67	June	0.10	Nov.	56.0	85	.....	.....	.....	nw.
Larimore	Grand Forks	1,134	23	34.9	105	July 28	−38	Jan. 14	23	12.68	3.45	June	0.10	Mar.	36.0	63	.....	.....	.....	nw.
Lisbon	Ransom	1,091	14	.....	110	July 28	−37	Jan. 15	14	17.20	3.40	Aug.	0.10	Nov.	37.9	52	.....	.....	.....	nw.
McHenry	Foster	1,509	8	34.8	108	July 28	40	Feb. 2	8	14.32	3.32	June	T.	May	61.3	56	242	79	44	nw.
McKinney	Renville	1,640	24	35.8	104	July 27	−43	Feb. 2	24	7.61	1.56	Oct.	T.	Mar.†	28.7	36	.....	.....	.....	nw.
McLeod	Ransom	1,075	5	38.0	105	July 28	−35	Feb. 2	6	16.46	4.22	Apr.	0.20	Nov.	43.5	77	176	58	131	nw.
Maddock	Benson	1,604	3	35.4	104	July 28	−44	Feb. 2	3	11.81	2.57	Apr.	T.	May	.....	50	69	155	141	nw.
Mandan	Morton	1,644	4	38.1	107	July 28	−40	Feb. 2	5	10.30	2.56	June	0.03	Nov.	.....	65	.....	.....	.....	.....
Manfred	Wells	1,605	15	36.3	106	July 28	−40	Feb. 2	15	11.71	2.74	June	0.22	May†	37.0	75	150	123	92	nw.
Manning	Dunn	2,450	.....	.....	.....	.....	.....	.....	2	.....	2.68	June	.....	.....	.....	.....	.....	.....	.....	.....
Marmarth	Slope	.....	5	37.6	104	July 27	−40	Feb. 1	9	8.55	2.55	June	0.11	Nov.	41.6	75	.....	.....	.....	w.
Marstonmoor	Stutsman	1,945	8	.....	108	July 28	.....	.....	9	.....	2.15	June	T.	May	.....	.....	.....	.....	.....	nw.
Mayville	Traill	975	22	36.9	108	July 28†	−37	Jan. 14	22	13.51	3.36	July	0.13	Mar.	.....	65	.....	.....	.....	.....
Melville	Foster	1,590	20	37.4	110	July 28	−38	Feb. 2	20	11.15	2.30	July	T.	Mar.†	28.0	33	.....	.....	.....	nw.
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	6	14.17	3.17	Apr.	0.22	Dec.	28.7	44	161	85	119	nw.
Minot	Ward	1,557	19	35.2	105	July 27	−43	Feb. 2	22	11.66	2.62	July	T.	Mar.	36.0	65	142	104	119	nw.
Minto	Walsh	820	25	34.8	104	July 28	−43	Jan. 14	25	11.07	2.62	June	0.13	Mar.	.....	69	199	64	102	se.
Mott	Hettinger	2,424	11	37.7	105	July 27	−47	Feb. 2	11	13.59	2.89	July	0.00	Nov.	.....	73	125	113	127	nw.
Napoleon	Logan	1,955	26	36.3	111	July 28	−43	Feb. 2	26	9.67	2.27	Apr.	0.15	Feb.†	41.0	58	169	63	133	nw.
New England	Hettinger	2,400	24	39.6	107	July 27	−40	Feb. 2	24	8.76	1.69	July	0.00	Nov.	39.0	41	100	175	90	nw.
New Salem	Morton	2,163	13	37.3	107	July 28	−45	Feb. 2	13	9.01	1.82	Apr.	0.01	Nov.	48.3	67	176	114	75	nw.
Orange	Adams	2,586	9	38.6	105	July 27	−47	Feb. 2	9	7.26	1.71	June	0.00	Aug.	29.0	31	76	162	127	nw.
Oriska	Barnes	1,270	13	.....	110	July 28	.....	.....	13	.....	2.55	June	.....	.....	.....	.....	.....	.....	.....	.....
Park River	Walsh	998	14	36.3	107	July 28	−45	Jan. 22	14	12.63	1.94	Apr.	0.01	May	.....	75	.....	.....	.....	nw.
Parshall	Mountrail	.....	.....	.....	.....	.....	.....	.....	3	6.63	2.34	June	0.00	Mar.†	.....	22	.....	.....	.....	nw.
Pembina	Pembina	789	38	33.3	104	July 28	−44	Jan. 14†	44	10.95	3.56	June	0.08	May	.....	62	.....	.....	.....	nw.
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	3	13.52	1.98	June	T.	May	63.9	61	161	132	72	nw.
Sanish	Mountrail	2,260	3	.....	108	July 27	−45	Feb. 2	3	.....	2.34	June	.....	.....	.....	.....	.....	.....	.....	nw.
Steele	Kidder	1,857	21	37.6	109	July 28	−40	Feb. 2	22	13.27	2.75	Apr.	0.04	May	.....	79	122	196	47	w.
Taylor	Stark	2,493	2	38.2	105	July 27	−48	Feb. 2	2	8.95	1.54	June	T.	Nov.	.....	79	.....	.....	.....	w.
Towner	McHenry	1,482	16	36.2	104	July 28	−44	Feb. 2	16	8.22	1.82	July	T.	Mar.	26.0	42	148	123	94	nw.
Wahpeton	Richland	962	24	37.8	109	July 28	−37	Feb. 2	24	10.74	3.02	Apr.	0.03	Nov.	.....	75	165	83	117	se.
Walhalla	Pembina	966	11	34.9	104	July 29	−37	Jan. 14	11	10.88	2.26	June	T.	May	34.5	56	.....	.....	.....	n.
Washburn	McLean	1,734	19	38.5	107	July 28	−38	Feb. 2	19	7.22	1.55	July	0.00	Mar.†	.....	38	.....	.....	.....	nw.
Westhope	Bottineau	1,508	12	34.4	102	July 27	−43	Jan. 14†	12	9.22	2.81	Apr.	T.	Mar.†	.....	42	105	180	80	nw.
Williston	Williams	1,875	39	37.4	106	July 27	−40	Feb. 2	39	8.63	2.36	June	0.01	Nov.	25.8	95	128	145	92	w.
Willow City	Bottineau	1,471	26	33.5	100	July 27	−44	Dec. 29	26	10.81	3.66	July	0.10	May	39.5	51	98	194	73	nw.
Zap	Mercer	1,800	5	.....	107	July 27	−45	Feb. 2	5	7.55	2.05	June	T.	Nov.	41.3	78	117	128	120	nw.
Moorhead, Minn	Clay	935	37	37.4	110	July 28	−32	Jan. 15†	37	9.94	1.90	Apr.	0.19	Nov.	32.6	95	188	85	92	nw.

* Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1917, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.45	0.00	0.85	+0.47	0.15	−0.49	2.21	+0.28	0.17	−2.92	2.18	−1.65	1.57	−1.74	1.41	−1.67	1.78	−0.27	0.48	−0.92	0.22	−0.28	0.22	−0.22	11.69	−9.41
Ashley	1.20	+0.68	0.50	+0.05	1.50	+0.25	1.76	−0.28	0.41	−2.15	1.55	−2.00	1.98	−0.70	0.93	−1.45	0.80	−0.27	0.30	−0.77	0.20	−0.32	1.60	+1.15	12.73	−5.81
Beach	0.16	−0.56	0.10	−0.47	0.33	−0.45	0.94	−0.20	0.50	−2.70	1.43	−2.90	0.21	−1.78	1.49	−0.56	0.15	−1.42	0.25	−0.78	0.06	−0.46	0.40	−0.09	6.02	−12.37
Berthold Agency	0.76	+0.35	0.90	+0.23	0.10	−0.86	2.57	+1.49	0.10	−2.65	1.56	−2.56	1.55	−0.43	0.61	−1.12	0.93	−0.55	0.33	−0.59	T.	−0.54	0.40	+0.01	9.81	−7.22
Bierman	0.51	.....	1.46	.....	0.67	.....	1.53	.....	2.08	.....	2.44	.....	0.73	.....	0.96	.....	0.05	.....	0.83	.....	0.15	.....	1.14	.....	12.55	.....
Bismarck	0.65	+0.11	0.44	−0.06	0.60	−0.44	1.87	−0.01	0.26	−2.24	2.15	−1.39	1.50	−0.64	1.37	−0.61	1.75	+0.56	0.21	−0.82	0.04	−0.64	0.59	−0.03	11.43	−6.21
Bottineau	0.39	−0.05	0.51	+0.10	0.10	−0.86	1.43	+0.60	0.02	−2.26	1.91	−1.50	1.87	−0.68	0.95	−1.02	0.44	−1.35	1.15	+0.07	0.14	−0.46	0.41	−0.14	9.32	−7.55
Bowbells	0.34	.....	0.99	.....	0.38	.....	1.92	.....	0.00	.....	1.76	.....	1.39	.....	1.51	.....	1.44	.....	1.38	.....	0.18	.....	0.58	.....	11.87	.....
Bowman	1.30	.....	T.	.....	0.70	.....	1.63	.....	1.20	.....	1.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buford	0.95	+0.45	0.30	−0.19	0.07	−0.48	1.72	+0.64	0.21	−2.22	2.00	−0.81	0.14	−1.56	T.	−1.32	0.92	−0.06	0.88	+0.02	0.00	−0.48	0.08	−0.50	7.27	−6.51
Cando	0.10	−0.30	0.55	+0.33	0.23	−0.48	1.33	+0.45	0.61	−1.94	2.99	−0.83	1.83	−0.82	0.77	−1.60	0.46	−1.09	0.87	+0.07	0.12	−0.36	0.24	−0.09	10.12	−6.66
Carson	0.52	.....	0.11	.....	0.80	.....	1.67	.....	1.30	.....	1.85	.....	1.53	.....	0.20	.....	0.81	.....	0.39	.....	0.09	.....	0.84	.....	10.11	.....
Colgate	0.25	.....	0.51	.....	1.36	.....	0.97	.....	T.	.....	1.90	.....	1.90	.....	1.36	.....	1.84	.....	0.28	.....	0.20	.....	0.45	.....	11.02	.....
Cooperstown	0.50	−0.01	0.50	+0.15	T.	−0.71	1.60	+0.65	0.00	−2.19	2.15	−1.68	1.90	−1.00	0.10	−2.47	1.45	−0.29	0.65	−0.38	0.30	−0.08	0.70	+0.35	9.85	−7.66
Crosby	0.47	−0.11	0.47	+0.22	0.15	−0.57	1.25	+0.37	0.13	−2.14	2.14	−1.18	0.79	−1.07	0.92	−1.39	1.02	−0.35	1.38	+0.69	0.02	−0.89	1.05	+0.53	9.79	−5.89
Devils Lake	0.55	−0.05	0.68	+0.15	0.30	−0.71	1.40	−0.63	T.	−2.20	1.69	−1.84	1.60	−2.18	1.12	−1.64	0.83	−0.56	1.32	+0.09	0.32	−0.39	0.66	+0.27	10.47	−9.69
Dickinson	0.60	+0.15	0.23	−0.26	0.48	−0.42	1.18	−0.04	0.36	−2.22	2.54	−0.33	1.40	−0.88	1.43	0.59	0.20	−0.89	0.22	−0.54	T.	−0.53	0.61	+0.16	9.25	−6.39
Donnybrook	0.30	−0.05	0.25	−0.40	0.23	−0.66	1.59	+0.74	0.00	−2.57	1.41	−1.41	1.31	−1.65	0.69	−1.65	0.75	−1.27	2.15	+1.25	0.03	−0.60	0.55	+0.01	9.26	−8.26
Dunseith	0.30	−0.16	0.60	+0.15	T.	−0.98	2.00	+1.27	T.	−1.69	3.61	+0.59	2.58	+0.17	0.84	−1.39	0.43	−1.22	1.13	+0.41	0.16	−0.19	0.55	+0.16	12.20	−2.88
Eckman	1.30	+0.74	1.00	+0.66	T.	−0.49	1.61	+0.63	0.08	−2.34	2.67	−0.29	0.97	−1.73	1.14	−1.19	0.54	−0.76	0.98	+0.15	0.11	−0.39	0.60	−0.02	11.00	−5.03
Edgeley	0.28	−0.02	0.45	+0.12	0.30	−0.62	1.93	+0.02	0.18	−2.63	2.90	−0.53	1.97	−0.82	1.01	−1.38	0.89	−0.93	0.24	−0.80	0.10	−0.22	0.16	−0.27	10.41	−8.08
Ellendale	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.91	.....	.....	.....
Energy	0.25	.....	0.11	.....	0.10	.....	0.95	.....	0.88	.....	0.92	.....	1.38	.....	0.56	.....	0.80	.....	0.33	.....	T.	.....	0.24	.....	6.52	.....
Epping	0.32	.....	0.90	.....	0.22	.....	1.37	.....	T.	.....	1.84	.....	0.83	.....	1.25	.....	0.81	.....	0.98	.....	0.02	.....	0.52	.....	9.06	.....
Fessenden	1.00	.....	1.08	.....	0.05	.....	1.54	.....	0.08	.....	2.97	.....	2.84	.....	0.85	.....	1.96	.....	0.45	.....	0.17	.....	0.95	.....	13.94	.....
Forman	0.34	−0.17	0.40	−0.03	0.30	−0.62	3.08	+0.87	0.20	−2.70	2.09	−1.28	1.30	−1.62	0.70	−2.27	3.79	+1.97	0.50	−0.86	0.10	−0.41	0.30	−0.19	13.10	−7.31
Fullerton	2.37	+1.72	1.32	+0.59	1.45	+0.14	2.70	+0.79	0.49	−2.72	2.55	−0.58	1.43	−1.84	0.40	−2.52	0.78	−1.51	0.58	−0.65	0.18	−0.50	0.77	−0.09	15.02	−7.72
Garrison	0.40	−0.11	1.50	+0.86	0.24	−0.79	2.12	+1.06	0.54	−1.82	1.09	−2.26	1.52	−0.83	0.77	−1.12	0.82	−0.53	0.86	+0.04	0.19	−0.49	1.12	+0.63	11.17	−5.36
Graiton	0.48	−0.10	0.91	+0.37	0.14	−0.60	1.52	+0.01	0.15	−2.08	1.82	−1.53	2.72	+0.19	0.83	−1.87	0.69	−1.22	0.97	+0.08	0.17	−0.47	0.65	+0.15	11.05	−7.07
Grand Forks	0.68	+0.16	1.12	+0.62	0.34	−0.39	1.37	−0.72	0.23	−2.33	1.95	−1.58	2.84	+0.25	1.58	−1.05	0.88	−1.12	1.15	−0.13	0.24	−0.49	1.27	+0.77	13.65	−6.01
Grand Rapids	1.50	.....	0.50	.....	1.00	.....	1.85	.....	0.55	.....	6.20	.....	0.50	.....	0.75	.....	2.89	.....	0.30	.....	0.05	.....	0.15	.....	16.24	.....
Granville	0.40	−0.01	1.45	+1.22	0.04	−0.49	0.76	−0.25	0.17	−1.86	1.16	−1.94	1.50	−0.66	0.58	−1.78	0.87	−0.52	0.70	−0.20	0.15	−0.30	0.80	+0.34	8.58	−6.45
Hannah	1.40	+0.39	1.00	+0.47	0.30	−0.32	0.92	−0.20	0.09	−2.50	2.77	−0.55	3.34	+0.93	0.52	−1.62	.....	.....	.....	.....	.....	.....	0.90	+0.12	.....	.....
Hansboro	2.80	.....	0.50	.....	0.50	.....	1.98	.....	0.00	.....	2.70	.....	2.95	.....	1.00	.....	0.65	.....	1.05	.....	0.10	.....	0.47	.....	14.70	.....
Hettinger	0.69	+0.36	0.07	−0.27	0.40	−0.25	0.78	+0.05	1.10	−1.24	1.72	−1.97	1.28	−1.68	0.94	−0.51	0.09	−1.59	0.13	−0.63	T.	−0.38	0.17	−0.25	7.37	−8.36
Hillsboro	0.60	−0.17	1.40	+0.70	0.05	−0.86	2.03	−0.09	0.18	−3.69	2.04	−1.63	2.65	−0.15	0.25	−2.84	2.83	+0.10	1.20	+0.20	0.20	−0.55	0.78	−0.18	14.21	−9.16
Howard	0.80	−0.03	0.60	−0.12	1.17	−0.01	3.05	+1.95	0.03	−2.31	1.75	−1.24	0.34	−1.34	0.05	−1.63	1.15	−0.31	1.65	+0.92	T.	−0.60	0.72	−0.14	11.31	−4.86
Jamestown	0.80	+0.26	0.49	−0.11	0.30	−0.71	1.16	−0.63	0.10	−2.76	1.30	−2.46	1.30	−1.52	1.31	−1.40	0.43	−1.11	0.80	−0.12	0.30	−0.43	0.45	−0.29	8.74	−11.28
Lakota	0.22	−0.48	1.48	+0.94	0.20	−0.39	1.18	−0.40	T.	−2.20	1.87	−1.69	2.24	−0.74	1.34	−1.18	1.06	−0.13	0.66	−0.25	0.16	−0.54	0.72	−0.11	11.09	−7.17
Lamoine	0.10	−0.55	0.40	+0.07	0.10	−0.75	1.56	+0.71	0.27	−2.08	2.13	−1.43	0.98	−1.73	0.38	−1.69	0.51	−1.10	0.60	−0.11	0.20	−0.36	0.10	−0.40	7.33	−9.42
Langdon	2.40	+1.69	1.10	+0.28	0.30	−0.37	1.37	+0.33	0.16	−1.97	2.67	−1.12	2.58	+0.03	1.59	−1.12	0.77	−1.34	1.99	+1.00	0.10	−0.44	0.25	−0.91	15.28	−3.94
Larimore	0.40	−0.10	1.12	+0.79	0.10	−0.73	2.06	+0.54	0.20	−2.18	3.45	0.00	2.36	−0.67	0.47	−2.51	1.04	−0.61	0.93	−0.38	0.15	−0.23	0.40	+0.01	12.68	−6.07
Linton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.44	.....	0.40	.....	T.	.....	0.35	.....	.....	.....
Lisbon	1.90	+1.27	0.55	−0.26	0.42	−0.16	1.53	−0.51	0.77	−2.68	2.46	−2.16	2.58	−0.97	3.40	+1.24	2.67	+0.45	0.70	−0.48	0.10	−0.41	0.12	−0.39	17.20	−5.06
McClusky	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.40	.....	0.10	.....	0.70	.....	.....	.....
McHenry	1.04	.....	1.59	.....	0.30	.....	1.31	.....	T.	.....	3.32	.....	1.90	.....	0.49	.....	1.53	.....	1.36	.....	0.20	.....	1.28	.....	14.32	.....
McKinney	0.25	−0.11	0.37	+0.06	T.	−0.84	0.70	−0.25	T.	−2.18	1.30	−2.16	0.81	−1.26	1.08	−0.49	0.79	−0.83	1.56	+0.78	0.20	−0.47	0.55	+0.12	7.61	−7.63
McLeod	0.75	.....	1.30	.....	0.75	.....	4.22	.....	0.33	.....	2.37	.....	2.03	.....	0.46	.....	2.39	.....	1.26	.....	0.20	.....	0.40	.....	16.46	.....
Maddock	0.15	.....	0.66	.....	0.18	.....	2.57	.....	T.	.....	1.85	.....	2.55	.....	0.44	.....	2.17	.....	0.60	.....	0.13	.....	0.51	.....	11.81	.....
Mandan	0.28	.....	0.19	.....	0.35	.....	1.87	.....	0.35	.....	2.56	.....	1.58	.....	0.89	.....	1.97	.....	0.04	.....	0.03	.....	0.19	.....	10.30	.....
Manfred	0.64	−0.04	0.52	+0.09	0.24	−0.62	1.28	+0.02	0.22	−2.30	2.74	−0.96	1.80	−0.49	1.04	−1.31	1.58	+0.12	0.81	−0.10	0.22	−0.46	0.62	−0.16	11.71	−6.21
Manning	.....	.....	.....	.....	0.27	.....	1.31	.....	0.24	.....	2.68	.....	1.52	.....	0.67	.....	0.40	.....	0.10	.....	0.00	.....	0.15	.....	.....	.....
Marmarth	0.28	.....	0.64	.....	0.32	.....	1.13	.....	1.96	.....	2.55	.....	0.35	.....	0.44	.....	0.17	.....	0.20	.....	0.11	.....	0.40	.....	8.55	.....
Marstonmoor	0.55	.....	0.60	.....	0.20	.....	1.37	.....	T.	.....	2.15	.....	0.83	.....	0.46	.....	1.62	.....	0.44	.....	0.40	.....	.....	.....	.....	.....
Mayville	0.75	+0.38	0.80	+0.40	0.13	−0.55	1.98	+0.31	0.10	−2.85	2.03	−0.98	3.36	0.00	0.56	−2.67	2.12	−0.44	0.62	−0.62	0.26	−0.41	0.80	+0.33	13.51	−7.10
Melville	0.60	+0.25	0.50	+0.15	T.	−0.62	1.72	+0.70	T.	−2.60	2.27	−1.15	2.30	−0.53	0.40	−1.75	1.96	+0.62	0.70	−0.20	0.30	−0.12	0.40	+0.05	11.15	−5.20
Milnor	0.78	.....	0.37	.....	0.80	.....	3.17	.....	0.36	.....	2.07	.....	1.39	.....	1.24	.....	2.77	.....	0.75	.....	0.25	.....	0.22	.....	14.17	.....
Minot	0.30	−0.07	0.70	+0.20	T.	−0.75	1.87	+0.61	0.06	−2.05	0.97	−2.27	2.62	+0.66	1.14	−1.10	1.24	−0.42	1.46	+0.49	0.35	−0.28	0.95	+0.58	11.66	−4.40
Minto	0.51	+0.03	0.29	−0.27	0.13	−0.77	1.51	−0.10	0.16	−2.33	2.62	−0.72	2.19	−0.60	0.37	−2.27	0.74	−1.37	1.55	+0.36	0.32	−0.24	0.68	+0.22	11.07	−8.06
Mott	1.78	+0.94	0.83	+0.31	1.36	+0.41	1.82	+0.57	0.79	−1.76	1.97	−1.79	2.89	+0.51	0.21	−1.59	0.41	−1.37	0.21	−1.08	0.00	−0.48	1.32	+0.75	13.59	−4.58
Napoleon	0.25	−0.26	0.15	−0.30	0.40	−0.51	2.27	+0.53	0.10	−2.36	1.81	−1.97	2.08	−0.40	0.84	−1.67	1.07	−0.23	0.40	−0.48	0.15	−0.55	0.15	−0.34	9.67	−8.54
New England	1.10	+0.66	0.30	−0.39	0.60	−0.22	1.05	+0.07	0.71	−1.54	1.64	−0.87	1.69	−0.09	0.25	−1.65	0.12	−1.07	0.40	−0.24	0.00	−0.55	0.90	+0.48	8.76	−5.41
New Salem	0.81	+0.15	0.65	+0.30	0.72	−0.25	1.82	+0.69	0.62	−1.98	1.47	−2.78	0.68	−1.63	0.24	−1.57	0.68	−0.83	0.48	−0.62	0.01	−0.32	0.83	+0.36	9.01	−8.48
Orange	0.60	.....	0.10	.....	0.50	.....	0.97	.....	0.92	.....	1.71	.....	1.04	.....	0.00	.....	0.23	.....	0.40	.....	0.19	.....	0.60	.....	7.26	.....
Oriska	0.95	+0.37	.....	.....	0.20	−0.37	1.81	+0.09	0.03	−3.16	2.55	−0.79	1.70	−1.36	0.12	−2.55	1.95	+0.25	.....	.....	.....	.....	.....	.....	.....	.....
Park River	1.00	+0.57	1.18	+0.77	0.90	+0.35	1.94	+0.61	0.01	−2.37	1.87	−1.75	1.82	−0.67	0.73	−1.73	0.68	−0.94	1.59	+0.59	0.40	−0.36	0.51	−0.06	12.63	−4.99
Parshal	0.15	.....	0.09	.....	0.00	.....	1.24	.....	0.28	.....	2.34	.....	0.56	.....	0.39	.....	1.26	.....	0.32	.....	0.00	.....	T.	.....	6.63	.....
Pembina	0.70	+0.11	0.80	+0.05	0.57	−0.38	0.24	−1.41	0.08	−2.55	3.56	−0.09	2.64	+0.05	1.10	−1.28	0.30	−1.55	0.48	−1.01	0.38	−0.34	0.10	−0.75	10.95	−9.15
Powers Lake	1.83	.....	1.10	.....	0.07	.....	1.95	.....	T.	.....	1.98	.....	0.90	.....	1.79	.....	1.42	.....	1.30	.....	0.10	.....	1.08	.....	13.52	.....
Sanish	0.16	.....	0.55	.....	0.55	.....	1.40	.....	.....	.....	2.34	.....	1.26	.....	0.53	.....	0.88	.....	1.38	.....	0.00	.....	0.60	.....	.....	.....
Searing	.....	.....	.....	.....	.....	.....	1.28	.....	0.09	.....	1.96	.....	0.51	.....	0.88	.....	0.53	.....	0.65	.....	T.	.....	.....	.....	.....	.....
Steele	1.21	+0.86	0.43	−0.04	1.36	+0.52	2.75	+1.69	0.04	−2.35	1.94	−1.39	1.32	−1.34	0.74	−1.54	0.83	−0.37	0.78	+0.06	0.41	−0.18	1.46	+1.08	13.27	−3.00
Taylor	1.06	.....	0.45	.....	0.43	.....	1.40	.....	0.53	.....	1.54	.....	1.22	.....	0.60	.....	0.45	.....	0.48	.....	T.	.....	0.79	.....	8.95	.....
Towner	0.45	−0.09	0.40	−0.01	T.	−1.07	1.02	−0.27	0.27	−2.52	0.98	−2.70	1.82	−0.78	0.78	−1.55	0.69	−1.25	0.76	−0.32	0.05	−0.41	1.00	+0.65	8.22	−10.32
Turtle Lake	0.30	.....	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	0.56	+0.13	0.39	−0.16	0.30	−0.66	3.02	+0.68	0.51	−2.29	1.03	−2.88	1.36	−2.70	0.82	−2.41	2.00	−0.08	0.57	−1.07	0.03	−0.64	0.15	−0.28	10.74	−12.36
Walhalla	1.10	+0.27	0.80	+0.31	0.25	−0.47	2.20	+0.97	T.	−2.85	2.26	−0.97	1.55	−1.65	0.79	−1.82	0.54	−1.41	0.99	−0.02	0.10	−0.48	0.30	−0.85	10.88	−8.97
Washburn	0.60	+0.21	0.84	+0.45	0.00	−0.69	1.10	+0.05	0.34	−2.08	0.80	−2.91	1.55	−0.75	0.60	−0.69	0.74	−0.53	0.13	−0.87	0.00	−0.66	0.52	+0.24	7.22	−8.23
Watford	0.66	.....	0.53	.....	0.32	.....	2.44	.....	0.27	.....	1.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	0.05	−0.44	0.25	+0.02	T.	−0.55	2.81	+1.83	T.	−2.24	1.40	−1.72	0.98	−1.08	1.24	−1.03	0.61	−0.82	1.38	+0.71	0.10	−0.38	0.40	+0.06	9.22	−5.64
Williston	0.47	−0.11	0.67	+0.20	0.47	−0.21	1.28	+0.05	0.08	−2.18	2.36	−1.21	0.36	−1.67	0.21	−1.10	0.72	−0.19	1.00	+0.23	0.01	−0.59	1.00	+0.34	8.63	−6.44
Willow City	1.60	+1.25	0.75	+0.35	0.20	−0.50	1.12	+0.19	0.10	−1.90	1.01	−2.52	3.66	+1.49	0.28	−1.67	0.30	−1.46	0.79	+0.12	0.20	−0.21	0.80	+0.38	10.81	−4.48
Zap	0.26	.....	0.36	.....	0.21	.....	1.04	.....	0.44	.....	2.05	.....	1.13	.....	0.54	.....	0.82	.....	0.46	.....	T.	.....	0.24	.....	7.55	.....
Moorhead, Minn.	0.65	−0.06	0.85	+0.12	0.40	−0.74	1.90	−0.43	0.38	−2.57	1.52	−2.61	0.81	−2.93	0.77	−2.33	1.16	−1.14	0.76	−1.31	0.19	−0.79	0.55	−0.19	9.94	−14.98
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1917, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	[a]1.2	−6.5	− 2.7	−10.5	23.6	+0.1	38.2	−3.9	52.6	−1.9	60.1	−4.0	71.2	+2.9	65.2	−1.0	56.0	−1.3	33.8	−11.2	34.4	+8.1	0.0	−12.6	39.9	−3.5
Ashley	5.4	−2.2	2.0	−6.4	22.3	+0.3	38.4	−4.4	51.4	−1.4	60.6	−1.4	71.0	+2.7	66.4	+0.5	58.2	+0.9	35.9	−8.1	38.7	+11.5	4.2	−9.8	37.9	−1.5
Beach	8.2	−1.2	5.6	−8.8	20.2	−7.0	36.7	−6.4	50.0	−0.1	57.0	−4.5	71.0	+4.0	66.2	+1.3	58.2	+2.1	38.2	−6.3	42.4	+12.0	7.8	−9.5	38.5	−2.0
Berthold Agency	8.9	+2.2	1.8	−7.5	25.5	+0.5	40.4	−3.1	[a]51.8	−2.5	60.3	−3.0	71.9	+3.0	65.0	−3.1	54.3	−3.3	[a]35.1	−10.5	[a]37.6	+10.1	2.8	−14.2	38.0	−2.6
Bierman	12.5	.....	6.0	.....	[a]21.4	.....	38.2	.....	49.1	.....	58.6	.....	73.2	.....	67.8	.....	[a]57.2	.....	39.0	.....	[b]42.0	.....	10.2	.....	39.6	.....
Bismarck	6.3	−0.4	1.8	−6.5	24.3	+2.2	38.5	−4.1	52.6	−2.6	61.9	−2.3	73.2	+3.0	66.6	−1.5	57.6	+0.5	36.4	−7.7	40.2	+14.2	3.2	−11.8	38.6	−1.4
Bottineau	− 4.8	−4.9	− 4.7	−6.8	19.8	+2.1	35.4	−3.7	51.7	+0.5	59.0	+0.9	70.0	+4.3	64.4	+1.3	56.1	+0.4	31.4	−11.1	34.6	+12.4	− 5.2	−12.7	34.0	−1.4
Bowbells	− 0.8	.....	− 4.7	.....	19.6	.....	34.4	.....	48.6	.....	58.7	.....	67.4	.....	62.2	.....	52.8	.....	34.7	.....	34.4	.....	− 3.6	.....	33.6	.....
Bowman	11.7	.....	9.0	.....	[d]22.4	.....	38.4	.....	50.5	.....	61.2	.....														
Buford	5.8	0.0	− 1.0	−11.7	[a]20.0	−3.6	38.6	−4 1	[b]52.2	−2.0	[k]58.3	−6.0	72.8	+3.4	[a]66.8	−0.1	[a]57.6	+1.8	.....	.....	.....	.....	5.6	−8.4	.....	.....
Cando	[a]9.6	−8.6	[a]5.4	−8.8	[c]20.6	+0.1	[b]36.0	−5.0	[b]52.0	+0.6	56.2	−5.4	70.2	+4.4	[a]65.9	+2.1	[f]58.4	+2.9	[b]36.2	−8.0	[b]36.4	+10.6	− 5.1	−13.2	34.3	− 2.4
Carson	9.2	.....	2.6	.....	21.8	.....	36.2	.....	50.3	.....	58.5	.....	72.0	.....	66.2	.....	56.9	.....	36.6	.....	38.7	.....	4.8	.....	37.8	.....
Colgate	2.0	.....	[g] 1.6	.....	25.0	.....	39.4	.....	53.2	.....	62.0	.....	72.2	.....	66.5	.....	57.9	.....	34.5	.....	36.5	.....	0.6	.....	37.6	.....
Crosby	2.3	+0.7	0.2	−7.6	24.4	+2.6	39.6	−1.1	53.9	+3.8	59.8	−0.9	69.8	+4.2	63.8	+0.1	55.0	+1.4	33.8	−8.4	37.2	+10.4	0.5	−12.9	36.7	− 0.6
Devils Lake	− 3.0	−3.3	− 3.8	−8.3	21.8	+3.3	36.1	−2.1	51.0	−1.7	59.2	−3.4	70.0	+1.9	64.4	−0.7	55.9	+0.3	32.4	−8.1	35.6	+13.0	− 3.6	−11.6	34.7	−1.7
Dickinson	9.6	−0.8	3.4	−8.5	21.9	−2.8	36.1	−6.6	49.1	−3.5	59.1	−2.5	71.6	+3.7	65.6	−1.0	57.0	+0.4	38.2	−6.0	39.2	+11.9	5.4	−13.0	38.0	−2.4
Donnybrook	[a] 3.2	−0.4	− 0.6	−8.6	23.0	−0.3	35.4	−4.0	49.6	−0.3	59.4	−2.1	69.4	+3.9	63.9	−1.0	[a]55.1	+0.3	32.5	−10.8	37.2	+9.2	− 1.1	−15.4	35.6	−2.4
Dunseith	− 1.6	−4.9	− 4.7	−8.4	21.7	+2.9	34.8	−5.6	50.4	−2.0	59.0	−2.6	[l]67.4	+3.5	63.4	−0.1	55.8	+1.0	32.0	−10.2	35.8	+10.8	− 4.2	−13.4	34.2	−2.4
Eckman	− 0.8	−1.4	[a]5.6	−12.0	[a]21.0	−1.1	35.8	−5.8	[b]49.2	−1.4	59.4	−1.9	69.8	+4.0	61.4	−1.9	[f]54.8	−0.7	[a]31.6	−11.1	33.2	+6.9	− 3.5	−13.1	33.9	−3.3
Edgeley	5.8	−2.0	2.8	−8.1	24.0	−2.5	38.4	−4.8	51.3	−2.2	60.8	−2.0	71.3	+2.8	66.0	−0.4	56.4	−1.1	36.0	−9.9	37.9	+7.5	4.2	−12.3	37.9	−2.9
Fessenden	− 0.4	.....	− 2.6	.....	21.6	.....	35.8	.....	49.5	.....	57.9	.....	69.1	.....	63.4	.....	53.2	.....	31.4	.....	35.8	.....	− 1.0	.....	34.5	.....
Forman	[a] 3.2	−3.7	[f] 4.8	−4.9	24.8	−0.8	40.4	−3.5	[e]55.5	0.0	63.4	−2.2	72.9	+3.7	[a]66.2	−1.4	[a]59.7	+0.6	[f]37.4	−8.5	[b]37.6	+10.4	6.2	−8.8	39.3	−1.6
Fullerton	4.8	−3.6	3.4	−5.9	24.0	−1.6	41.5	−0.8	52.3	−1.2	61.4	−1.6	71.8	+4.0	68.0	+1.9	57.4	+1.0	36.6	−8.0	37.6	+9.2	5.0	−9.2	38.7	−1.3
Garrison	4.0	−3.2	0.0	−8.5	23.1	+1.3	37.2	−5.2	[a]50.0	−3.0	60.0	−2.8	71.5	+3.6	64.7	−1.1	57.1	+0.2	35.0	−9.2	39.2	+14.2	1.2	−13.6	36.9	−2.3
Grafton	− 7.5	−8.9	− 6.2	−12.1	[a]20.0	+0.8	37.0	−3.0	50.8	−2.4	58.2	−5.1	68.4	+1.0	63.6	−0.7	54.6	−1.3	[a]32.2	−11.0	33.2	+10.7	− 3.2	−11.4	33.4	−3.6
Grand Forks	− 5.0	−9.0	− 4.6	−11.9	21.6	−1.2	37.5	−4.4	51.5	−2.2	59.4	−4.0	68.8	+1.6	64.4	−0.4	56.1	+0.1	32.8	−11.2	33.8	+8.5	− 1.0	−12.3	34.6	−3.9
Grand Rapids	4.0	.....	1.4	.....	24.2	.....	38.8	.....	51.4	.....	60.3	.....	71.0	.....	65.6	.....	57.7	.....	36.0	.....	37.3	.....	3.6	.....	37.6	.....
Granville	3.2	+1.5	0.2	−8.2	24.0	+0.3	37.4	−5.1	50.4	−1.0	61.1	−2.0	70.5	+3.4	[a]65.4	+1.5	55.7	+1.3	34.8	−9.3	39.0	+12.9	0.1	−12.3	36.8	−1.4
Hannah	− 8.2	−6.0	− 7.4	−9.4	18.0	−2.7	32.8	−6.3	50.0	+1.1	56.2	−3.0	.....	.....	62.8	.....	.....	.....	.....	.....	.....	.....	− 1.4	−8.8	.....	.....
Hansboro	− 5.8	.....	[d]2.8	.....	19.6	.....	35.7	.....	49.0	.....	61.4	.....	68.2	.....	[j]60.6	.....	54.2	.....	31.8	.....	[a]36.0	.....	− 3.2	.....	33.7	.....
Hettinger	7.8	−5.2	2.1	−12.3	23.6	−4.5	38.4	−7.1	49.4	−3.7	61.0	−1.2	73.6	+4.6	66.4	−0.6	55.6	−2.6	38.5	−8.8	39.8	+7.1	7.9	−8.8	38.7	−3.6
Hillsboro	− 2.2	−6.1	− 1.8	−10.3	23.6	−1.1	38.2	−5.4	51.8	−1.4	59.8	−4.6	70.0	+0.5	65.5	−1.4	57.0	−2.0	34.6	−11.4	35.0	+6.2	[a]0.3	−12.9	35.9	−4.2
Howard	2.0	+0.1	− 4.5	−11.6	16.0	−5.3	33.2	−7.3	49.4	0.0	57.6	−2.3	69.8	+4.7	64.7	+1.3	55.0	+1.4	34.0	−8.2	37.6	+10.9	− 2.8	−16.0	34.3	−2.7
Jamestown	0.6	−6.6	− 0.7	−8.9	22.0	−0.8	36.6	−5.9	51.4	−2.2	60.2	−3.4	72.2	+4.0	66.2	0.0	54.8	−1.9	[d]33.6	−11.9	33.9	+7.4	[d]1.6	−13.1	36.0	−3.6
Lakota	[a]4.8	−3.6	− 3.8	−8.8	21.8	+2.5	35.6	−3.9	49.6	−0.5	[e]57.4	−3.5	68.1	+2.7	[e]63.0	−0.2	55.2	+0.1	31.7	−10.5	33.2	+9.5	− 4.2	−13.1	33.6	−2.4
Lamoine	1.6	−2.4	− 2.1	−9.8	[a]19.3	−3.7	35.6	−7.0	50.6	−0.1	[c]58.0	−2.5	70.6	+4.7	63.3	−0.6	[e]53.5	−3.1	32.0	−11.1	35.8	+8.8	[a]0.2	−11.4	34.8	−3.2
Langdon	− 9.0	−6.9	− 8.2	−12.1	18.2	−0.9	33.8	−4.5	49.4	−1.4	57.0	−2.8	67.0	+2.6	61.8	+0.1	54.8	+1.4	30.4	−10.9	32.2	+7.1	− 6.2	−14.9	31.8	−3.6
Larimore	− 2.4	−5.7	− 3.2	−8.9	22.6	+1.4	36.6	−3.5	51.4	−1.3	58.4	−4.2	69.0	+2.8	64 3	+0.3	55.2	+0.3	33.8	−10.6	34.2	+9.8	[a]1.3	−12.8	34.9	−2.7
Linton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	56.4	.....	33.8	.....	39.7	.....	3.2	.....	.....	.....
Lisbon	.....	.....	[c] 3.4	−6.2	25.4	−1.2	38.2	−4.5	52.7	−0.2	59.6	−3.5	71.0	+2.8	65.4	+1.1	56.8	−0.9	31.4	−13.9	32.5	+2.3	4.3	−9.8	.....	.....
McHenry	− 2.8	.....	− 3.3	.....	21.7	.....	37.4	.....	52.2	.....	57.2	.....	69.6	.....	64.8	.....	55.4	.....	32.1	.....	35.3	.....	− 2.2	.....	34.8	.....
McKinney	3.0	−0.3	0.2	−4.5	24.0	+5.2	37.0	−3.5	50.8	−1.3	60.3	−0.6	69.6	+3.9	64.5	+1.3	55.8	+2.1	32.7	−9.1	34.6	+11.4	[a]3.2	−14.5	35.8	−0.8
McLeod	[b] 0.7	.....	1.3	.....	24.8	.....	40.0	.....	53.6	.....	63.0	.....	71.4	.....	65.3	.....	57.0	.....	37.0	.....	36.6	.....	4.8	.....	38.0	.....
Maddock	0.3	.....	− 1.6	.....	21.7	.....	37.0	.....	50.7	.....	59.4	.....	69.8	.....	64.2	.....	56.0	.....	33.5	.....	36.0	.....	− 1.8	.....	35.4	.....
Mandan	5.6	.....	2.2	.....	22.9	.....	38.0	.....	51.8	.....	61.8	.....	73.0	.....	66.0	.....	57.0	.....	36.6	.....	38.6	.....	3.2	.....	38.1	.....
Manfred	[a] 2.6	−1.4	− 0.6	−7.9	22.6	−0.6	37.4	−4.7	50.8	−0.9	56.2	−5.7	71.4	+4.8	65.3	+1.1	56.2	+0.3	34.6	−9.3	38.6	+10.3	0.2	−11.9	36.3	−2.1
Marmarth	[a]10.4	.....	[a] 5.2	.....	18.6	.....	[a]35.6	.....	47.3	.....	56.6	.....	[a]70.6	.....	64.5	.....	55.5	.....	40.2	.....	38.3	.....	[b]7.4	.....	37.6	.....
Marstonmoor	0.2	.....	[a]2.0	.....	[b]20.4	.....	[a]36.8	.....	[l]50.6	.....	58.5	.....	[a]69.1	.....	[f]64.0	.....	57.2	.....	31.6	.....	[a]35.0	.....	.....	.....	.....	.....
Mayville	− 2.1	−8.7	− 1.4	−9.8	24.4	+1.2	38.8	−3.9	52.4	−2.7	60.4	−4.9	71.2	+2.1	66.5	+0.5	58.6	+2.1	36.2	−9.0	36.4	+8.6	1.3	−12.6	36.9	−3.1
Melville	[b] 2.4	−4.0	[a] 1.0	−6.2	[a]22.9	+0.1	[b]37.4	−2.5	[a]52.0	−0.7	[b]64.0	+0.9	70.6	+2.9	[e]65.8	−0.3	[b]56.6	+0.4	[f]35.3	− 8.4	[e]38.4	+10.9	[e]2.4	−9.9	37.4	−1.4
Minot	2.0	−3.8	− 0.8	−9.1	22.2	+1.0	34.8	−6.7	50.0	−2.3	59.0	−4.3	70.2	+2.2	64.0	+1.8	54.8	−2.2	31.5	−12.9	35.6	+6.8	− 1.4	−15.1	35.2	−3.7
Minto	− 5.2	−7.0	− 6.2	−12.1	21.5	+0.4	37.5	−3.1	52.0	−1.4	60.0	−3.9	70.2	+3.1	65.4	+0.8	56.8	+0.4	33.4	−9.8	33.8	+9.3	[b]1.6	−12.5	34.8	−3.0
Mott	5.8	−1.8	0.8	−12.1	20.2	−7.1	36.4	−6.8	54.4	+3.1	61.2	−1.9	73.3	+4.6	65.0	−1.0	56.4	+0.2	32.7	−11.3	44.2	+14.3	2.1	−13.3	37.7	−2.8
Napoleon	2.8	−3.5	− 0.2	−7.0	19.7	−1.7	36.4	−5.0	50.6	−2.2	59.6	−5.8	71.3	+3.2	65.4	−0.8	56.0	−0.9	33.5	−8.4	38.0	+13.0	2.6	−10.4	36.3	−2.5
New England	10.0	−4.1	3.0	−9.3	24.6	+0.1	39.8	−2.7	51.6	+0.2	60.4	−2.0	72.8	+4.6	67.9	+1.3	56.4	+0.5	39.6	−4.3	39.9	+11.5	[b]9.0	−9.5	39.6	−1.1
New Salem	5.6	−2.2	0.4	−10.9	21.8	−2.9	36.2	−6.8	50.0	−1.4	60.9	−2.1	72.1	+3.0	66.0	−0.4	56.0	−1.3	36.0	−8.9	40.2	+10.2	2.6	−13.3	37.3	−3.1
Orange	10.0	.....	3.9	.....	22.2	.....	37.2	.....	49.4	.....	60.2	.....	72.2	.....	65.6	.....	57.2	.....	38.3	.....	39.8	.....	7.2	.....	38.6	.....
Oriska	0.1	−4.7	.....	.....	23.2	−2.9	38.0	−5.8	53.0	+0.4	.....	.....	69.6	+1.6	67.9	+2.3	56.2	−2.0	.....	.....	.....	.....	.....	.....	.....	.....
Park River	[a]3.2	−5.0	[a]3.2	−8.9	[b]21.6	−0.5	[a]37.4	−4.1	[e]52.2	0.0	60.2	−3.0	[a]71.2	+3.4	[e]70.5	+5.0	[a]57.3	+0.4	[b]36.6	−7.7	[a]37.2	+9.2	[e]2.7	−13.8	36.3	−2.1
Pembina	− 7.8	−5.1	−11.2	−13.0	20.0	+3.9	37.5	0.0	52.6	+0.2	60.1	−2.6	72.0	+4.6	65.6	+1.7	56.7	+3.1	33.4	−7.4	31.8	+9.6	−11.5	−18.1	33.3	− 1.9
Sanish	4.2	.....	0.2	.....	.....	.....	.....	.....	61.3	.....	73.2	.....	67.2	.....	58.4	.....	39.3	.....	39.5	.....	[a]3.6	.....	.....	.....	.....	.....
Steele	2.0	−6.9	− 0.4	−7.2	[a]26.0	+5.3	38.9	−5.3	52.7	−1.2	59.2	−3.5	72.8	+4.2	67.8	+1.5	57.8	+0.4	36.3	−7.3	39.4	+13.4	− 0.6	−15.0	37.6	− 1.8
Taylor	7.1	.....	[a] 2.5	.....	21.8	.....	36.7	.....	51.0	.....	60.4	.....	72.3	.....	65.7	.....	57.3	.....	37.6	.....	40.1	.....	5.7	.....	38.2	.....
Towner	0.0	−2.8	− 1.6	−7.3	23.2	+4.2	37.2	−4.5	51.3	−0.8	61.0	−1.2	71.0	+4.1	65.6	+1.3	57.8	+2.1	34.4	−8.5	36.3	+12.2	− 2.4	−13.2	36.2	− 1.2
Turtle Lake	5.2	.....	0.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	1.5	−6.5	0.4	−10.0	26.2	−0.6	40.1	−4.3	53.2	−2.6	61.2	−4.4	72.4	+3.2	66.4	−1.0	57.6	−1.1	35.6	−11.2	36.8	+10.0	2.4	−13.1	37.8	−3.5
Walhalla	[b]6.3	−6.0	− 3.8	−7.6	22.2	+2.3	36.7	−3.2	51.4	+1.3	[l]61.2	−0.7	[a]71.8	+5.1	65.2	+0.8	56.6	+0.7	[e]33.0	−10.0	[a]34.0	+6.9	− 3.6	−13.1	34.9	− 2.0
Washburn	[j] 2.4	−5.3	2.3	−7.8	25.0	+0.7	39.2	−5.0	53.4	−0.4	60.8	−3.6	74.8	+5.7	68.2	+0.9	57.8	−0.8	37.4	−7.6	37.6	+7.9	3.3	−11.6	38.5	− 2.2
Watford	7.4	.....	1.6	.....	[b]20.4	.....	[e]37.5	.....	[e]51.4	.....	[f]58.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	− 3.2	−2.0	− 4.0	−7.9	20.9	0.0	35.4	−4.6	51.2	−0.2	59.8	−2.0	69.8	+4.1	64.6	+0.6	56.5	+1.9	32.0	−10.2	34.0	+7.7	− 4.1	−14.1	34.4	− 2.2
Williston	5.2	−1.3	− 0.2	−8.1	20.8	−0.8	36.8	−3.7	52.0	−2.3	60.4	−3.1	72.1	+2.7	66.2	−1.7	56.5	−3.0	37.2	−5.7	39.4	+14.2	2.0	−11.6	37.4	− 2.0
Willow City	− 4.0	−4.9	− 3.4	−6.8	22.1	+4.0	35.8	−4.4	49.4	−2.5	58.0	−3.8	67.8	+2.4	61.2	−2.6	53.8	−0.6	32.0	−10.2	[e]34.8	+14.0	− 5.2	−14.9	33.5	− 2.5
Zap	6.0	.....	− 0.1	.....	22.6	.....	34.8	.....	.....	.....	58.5	.....	73.0	.....	66.0	.....	56.6	.....	34.5	.....	37.0	.....	0.5	.....	.....	.....
Moorhead, Minn	− 0.9	−3.6	− 0.4	−7.4	25.7	+4.3	39.2	−2.2	53.6	−1.2	61.3	−3.0	72.5	+3.8	66.4	+0.5	57.8	+1.2	35.1	−7.7	36.2	+11.8	2.6	− 8.1	37.4	− 1.0

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1917, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Amenia	38[a]	8	36	16	63	30	59	23	88	16	93	17	106	28	94	17†	89	23	74	1	69	2	47	19
Ashley	41	9	42	16	60	30	67	9	86	16	93	17	108	28	99	21	88	23	72	3	70	3†	47	19
Beach	40	9	40	16	49	29	67	21	92	15	92	9	110	27	98	3	93	22†	79	7	73	4	51	2
Berthold Agency	47	9	41	16	54	28	66	23	91[a]	15	97	29	103	23†	99[a]	21	90	23	66[a]	3	63[a]	19	50	19
Bierman	43	9	43	16	48[a]	30	66	21	89	15	89	28	104	27	97	19	91[a]	23	77	3	71	3	55	16
Bismarck	43	9	46	16	63	30	68	9	90	16	93	17	107	28	95	17	90	23	79	3	69	2	48	19
Bottineau	38	8	36	16	50	30	59	9	91	16	97	9	104	27	98	17	91	22	74	1	62	8	35	17
Bowbells	40	8	35[a]	16	45	29	59	9	88	15	90	9†	103	27	94	3	79	8	70	2	57	8†	45	19
Bowman	40	9	61	6	42[g]	21	72	21	88	15	97	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buford	42	9	41	16	47	29	68	22	91[b]	15	92[j]	9	105	27	96[a]	21	93[a]	21†	79	3	.....	.....	47	18
Cando	30[e]	28	42[b]	16	53[e]	30	63[l]	23	98[b]	16	99[b]	17	105	28	98[a]	17	94[f]	22	77[b]	1	68[d]	7	29	19
Carson	40	10	44	16	58	30	68	9	86	15	94	29	104	27†	99	3	92	23	80	3	75	3	50	19
Colgate	40	28	40[n]	16	62	30†	60	10†	97	16	100	17	114	28	104	17	88	23	82	1	69	19	45	19
Crosby	34	8	34	6†	48	20	65	20†	86	15	90	9	105	27	89	17	82	23	70	3	60	19†	46	17
Devils Lake	39	8	40	16	59	30	56	20	91	16	94	17	106	28	96	17	89	23	73	1	62	4	42	17
Dickinson	41	8	42	16	50	30	62	9†	90	15	94	29	108	28	97	4	97	23	79	3	71	3	48	19
Donnybrook	39[a]	9†	38	16	48	29	61	20	90[b]	15	96	9	104	27	95	17	91[a]	22	74	3	60	8†	43	19
Dunseith	34	9	35	7	51	30	57	20	90	16	92	9	96[g]	21†	92	21	89	22	72	1	64	19	38[a]	19
Eckman	40	8†	40[a]	16	51[a]	30	61	9	93[b]	16	97	9	104	27	98	17	91[k]	23	72[a]	1	63	20	43	18
Edgeley	41	9	42	16	65	30	62	9	90	16	95	17	110	28	96	21	89	23	80	1	70	3	51	19
Ellendale	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69	3	51	19
Fessenden	38	8	38	17	60	30	60	9†	91	16	93	17	109	28	99	17†	91	23	75	1	70	4	43	19
Forman	38[a]	9	38[a]	17	57	30	59	9†	90[a]	16	94[b]	17	110	28	93[a]	17†	86[a]	23	71[f]	1	67[b]	3	41	19
Fullerton	40	9	41	16	63	30	63	17	87	16	93	17	108	28	94	17	85	23	76	1	68	2	50	19
Garrison	38	9	40	16	50	30	64	8	89[a]	16	95	29	104	28	97	17	91	22†	76	1†	68	3	46	18
Grafton	40	8	31	7	53[a]	30	57	20	91	16	91	9	104	28	97	17	86[a]	17	73[a]	1	66	19	40	17
Grand Forks	40	8	37	16	54	30	57	23	89	16	90	17	106	28	98	17	87	23	71	1	57	4†	38	19
Grand Rapids	39	8	41	16	63	30	62	9	90	16	95	17	112	28	99	17	88	23	79	1	71	2	46	19
Granville	35	9	40	16	52	29	64	9	80	15	95	9	101	27	95[a]	17	92	22	76	1	70	7	42	17
Hannah	36	8	26	14	42	30	55	20	96	17	93	17	100[k]	21	94	20	.....	.....	.....	.....	.....	.....	34	17
Hansboro	42	8	30[d]	27	48	30	60	20	95	16	100	9	101	28	93[j]	21	91	24	72	1	72	19	43	19
Hettinger	42	8	33	6	53	31	71	9	91	15	98	29	105	23†	102	3	91	24	80	2	72	3	51	19
Hillsboro	40	8	38	17	56	31	55	1	88	16	90	17	106	28	99	17	86	23	72	1	66	19	43[a]	19
Howard	35	8	36	16	55	30	59	21	90	15	90	9	107	27	96	17†	89	23	75	3	68	8	40	17†
Jamestown	39	8	42	16	66	30	61	9	91	16	96	17	112	28	100	17	91	23	80	1	68	2	45[b]	17
Lakota	37[a]	8	36	16	55	30	54	20	90	16	93[d]	17	105	28	96[e]	17	87	23	71	1	61	19	39	18
Lamoine	37	8	39	16	56[a]	30	64	9	91	16	92[e]	17	108	28	97	17†	90	23	75	1	68	9	41[a]	19
Langdon	36	9	26[a]	7	44	29	53	20	91	16	92	9†	101	28	95	21	90	23	69	1	58	8	36	17
Larimore	40	8	38	16	58	30	55	23†	89	16	90	9†	105	28	98	17	84	17	71	1	64	19	39[a]	17
Linton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	90	24	76[b]	3	69[a]	18	40[b]	16
Lisbon	.....	.....	41[f]	16	63	30	56	20	91	16	93	17	110	28	94	14†	86	23	63	1	70	19	42	1
McHenry	38	8	37	16	62	30	58	20	91	16	94	17	108	28	100	17	90	22	70	1	64	4†	45	18
McKinney	41	8	38	16	50	29	62	9†	98	16	103[l]	9	104	27	96	17	91	23	74	1	65	19†	35[a]	17†
McLeod	40	9	43	16	61	28	73	9	88	16	94[c]	17	105	28	89	17†	87	23	73	1	68	19	47	19
Maddock	37	8	37	16	56	30	59	9†	91	16†	93	17	104	28	98	17†	90	23	75	1	64	4	42	18
Mandan	41	9	45	16	51[a]	29	65	9	89	15†	93	17	107	28	96	17	90	23	79	3	69	3	48	19
Manfred	38[a]	8	38	16	57	30	62	9	93	16	91	9	106	28	96	17	89	23	74	1	67	8	40	17†
Marmarth	40[a]	9	40[a]	16	42	29	67[a]	21	88	15	88	29	104[a]	27	96	3	91	23	82	3	72	3	45[b]	19
Marstonmoor	38	8†	40[a]	16	67[b]	30	62[e]	20	89[e]	16	94[a]	17	108[a]	28	105[a]	18	90	23	75	1	72[a]	4	.....	.....
Mayville	41	8	39	17	60	31	57	21	91	17	93	17	108	28†	101	17†	88	23	74	1	68	19	43	19
Melville	38[b]	8	38[a]	16	60[a]	30	58[b]	9†	88[a]	16	92[c]	17	110	28	98[c]	26	82[c]	22	70	1	64[c]	3	42[c]	17
Minot	41	8	43	16	53	30	65	9	91	15	96	9	105	27	96	3†	96	23	77	1	71	8	44	17†
Minto	38	8	35	15	54	30	59	23	91	16	91	10	104	28	98	17	86	17	72	1	66	19	42[b]	18
Mott	40	8†	41	16	43	31	67	9	87	17	95	17†	105	27	100	3	92	22	74	5†	77	9	52	1
Napoleon	38	8	44	16	65	30	67	9	93	16	95	17	111	28	100	17	92	23	78	1	72	4	47	19
New England	37	28	48	16	55	30	67	9	93	15	98	29	107	27	99	3	93	23	78	3	70	3	54[d]	19
New Salem	45	9	46	16	56	30	69	9	86	16	96	17	107	28	100	3	93	23	78	1†	75	4	58	19
Orange	41	9	43	16	58	30	73	9	88	15	96	29	105	27	98	3	92	23	80	3	73	3	50	19
Oriska	41	7†	.....	.....	64	30	57	20	89	16	.....	.....	110	28	98	18	86	17	.....	.....	.....	.....	.....	.....
Park River	40[a]	8	30	7	59[a]	30	58[e]	22	91[e]	16	96	10	107[e]	28	96[e]	17	85[a]	17†	70[b]	1	64[d]	19	40[e]	18
Pembina	36	8	20	27	42	27†	62	23	91	16	88	16	104	28	98	17	90[a]	17	58	7	62	15	28	1
Sanish	40	8†	40	16	.....	.....	.....	.....	.....	.....	97	29	108	27	98	17	96	28	76	3†	66	8	46[e]	18†
Steele	42[a]	8	45	16	56[a]	28†	61	21	90	16	98	17	109	28	100	21	91	23	74	3	70	6	46	19
Taylor	39	9	41[a]	16	49	30	60	9†	89	15	94	29	105	27	96	3	93	22	76	3	68	3	49	19
Towner	39	8	39	16	53	21†	63	9	91	16	96	9	104	28	96	17	94	22	75	1	61	19	36	16
Turtle Lake	38	8†	40	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	41	8	45	16	55	30	60	10	88	16	95	17	109	28	94	17†	85	17	68	3	67	4	47	19
Walhalla	42[b]	8	33	7	53	30	70	21	92	16	95[b]	9†	104[r]	29	98	17†	87	23	71[e]	1	66[f]	15†	40	16
Washburn	39[j]	8	43	16	53	30	65	10	87	15†	93	17	107	28	96	21	90	23†	79	3	69	4	48	17
Watford	40	8	41[a]	16	43	20†	65[b]	20	90[e]	15	94[e]	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	39	8	35	16	46	30	62	20	92	16	97	9	102	27	97	17	93	23	76	1	60	7	39[e]	19
Williston	40	9	42	16	46	29	62	22	90	15	91	9	106	27	95	16	92	22	76	3	68	3	44	17
Willow City	38	8	37	16	47	30	60	9	92	16	96	9	100	27	92	21	89	23	71	1	62[e]	8	36	18
Zap	41	8	43	16	48	27	61	9	.....	.....	95	29	107	27	100	3	93	23	79	3	69	3	42	17
Moorhead, Minn.	40	8	39	16	55	30	58	23	90	16	95	17	110	28	94	17	89	23	75	1	67	19	45	19

† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days, etc.

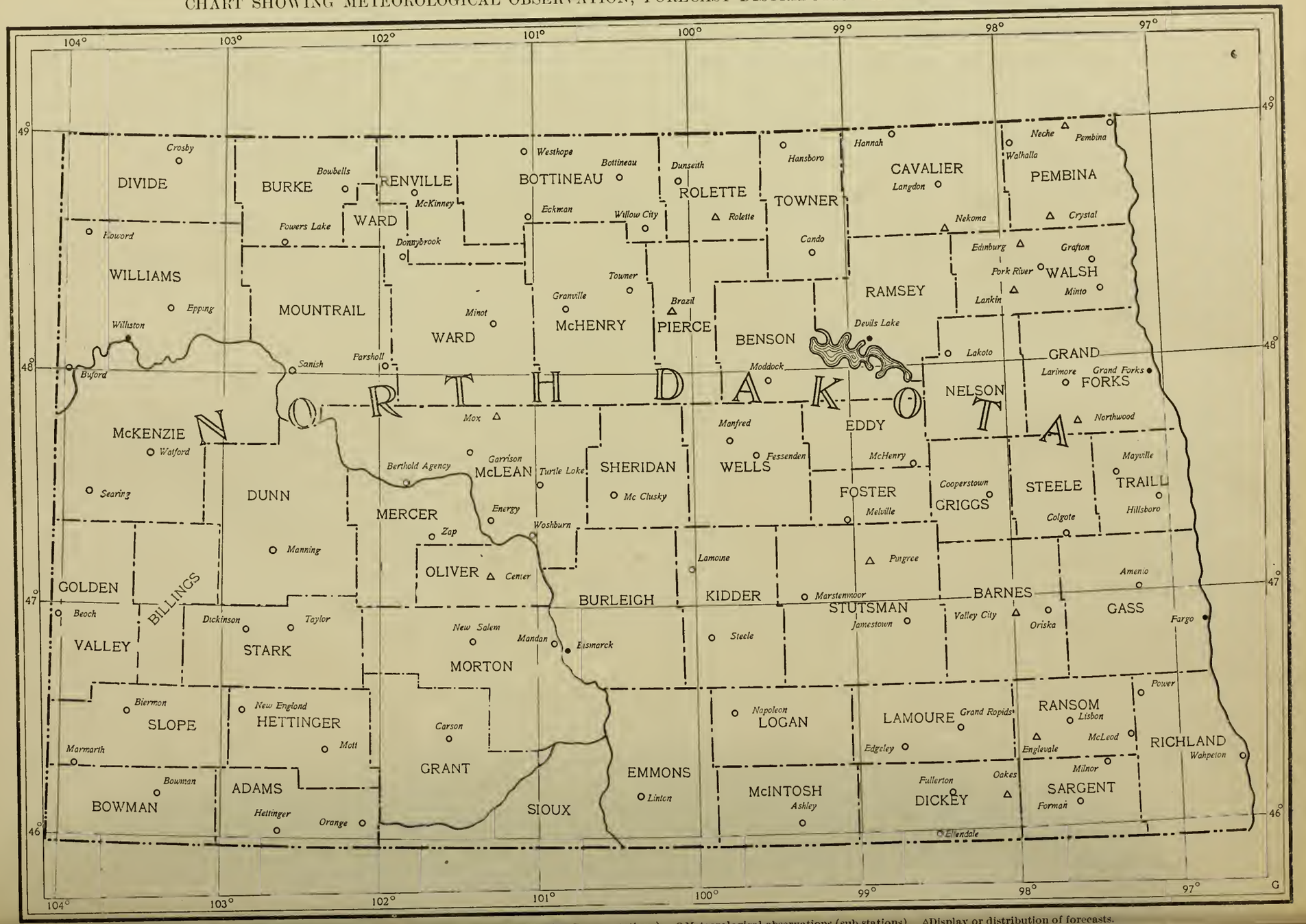
Monthly Minimum Temperatures for the Year 1917, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Amenia	−37	15	−36	2	−31	4	17	2	28	2	30	1	38	2	34	29	23	10	3	23	9	27	−34	29†
Ashley	−29	14	−38	2	−31	4	17	14	23	2	34	1†	31	3	35	28	30	20	2	29	9	1	−40	13
Beach	−40	31	−43	2	−22	3	17	2	20	1	27	1	35	2	31	9	22	27	1	22	9	26	−35	8
Berthold Agency	−35	22	−45	2	−27	3	8	6	21[a]	1†	29	21	35	2	31	9†	23	30	4[a]	12	9[a]	30	−39	13
Bierman	−38	31	−37	1	−19[a]	3	17	1	21	4†	32	1	41	12	39[a]	9	33[a]	26	10	12	19[b]	26	−31	9
Bismarck	−28	31	−39	2	−24	4	17	2	25	2	38	21	44	3	38	28	31	30	10	12	16	30	−37	29
Bottineau	−38	14†	−42	2	−30	3	10	2	24	2†	25	1	34	2	34	28	25	10	1	30	6	27	−41	29
Bowbells	−37	14	−43	2	−28	3	11	1†	20	30	27	1	31	2	31	28	29[f]	10	10	12†	10	30	−36	12
Bowman	−41	31	−41	2	− 8	4†	14	1	28	1†	26	1												
Buford	−41	31	−44	2	−33[b]	3	13	1	21[b]	1	30[i]	1	37	2	34[a]	9	27[a]	26					−34	8
Cando	−44[b]	14	−43[b]	2	−21[e]	3	16[l]	8	23[a]	3	26[e]	1	33	3	29[a]	28	16[f]	10	4[n]	24†	24[i]	27	−41	29
Carson	−34	31	−42	2	−23	3	10	7	26	1	31	1	36	2	35	9	26	26	8	21	12	29†	−36	29
Colgate	−36	14	−36	2	−30	4	18	14	24	27	24	1	37	2	29	29	25	27	− 3	20	7	27	−35	29
Crosby	−35	31	−38	2	−26	3	17	1	30	30	30	21	34	2	36	28	29	26	9	22	14	30	−32	12
Devils Lake	−40	14	−40	2	−21	4	17	1	27	1	31	4	37	2	36	28	24	10	10	23	− 2	30	−34	14
Dickinson	−36	31	−44	2	−20	4	15	2	24	1	28	1	37	2	30	9	25	26†	5	12	6	30	−35	8
Donnybrook	−34[a]	14†	−41	2	−24	3	11	1	21[a]	1	26	21	34	2	30	28	26[a]	26	− 1	23	11	1	−35	29
Dunseith	−35	14	−42	2	−27	4	6	2	25[a]	3†	26	1	35	2	33	28	21	10	0	30	2	27	−40	29
Eckman	−44	14	−47[a]	3	−39[a]	4	12	1	19[b]	30	23	4	31	3	27	28	19[b]	10†	− 1[a]	12†	2	3	−41	29
Edgeley	−28	14	−34	2	−23	4	17	15	25	2	32	21	33	3	34	28	27	30	1	23	11	1	−36	29
Ellendale																					6	27	−37	29
Fessenden	−38	14	−46	3	−26	4	14	2	21	27	29	1†	34	2†	30	28	24	10	3	12	6	27	−42	29
Forman	−28[a]	14	−32[k]	2	−20	4	20	8	30[i]	2	36[b]	1	44	3	32	9	34[a]	30	5[f]	23	16[b]	1	−32	29
Fullerton	−29	14	−35	2	−25	4	20	15	28	1†	37	15†	35	3	36	29	30	2	3	23	11	27	−35	29
Garrison	−32	14†	−42	2	−26	3	15	1	22[a]	1	29	1	36	2	33	28	27	30	3	12	12	30	−37	13
Grafton	−41	15	−39	2	−32[a]	4†	19	2	23	2	25	1†	36	3	30	29	18	10	6[a]	30	2	27	−38	29
Grand Forks	−36	14	−35	2	−33	4	20	2	25	27	28	1	40	2	36	29	22	10	2	23	10	30	−35	29
Grand Rapids	−33	15	−38	2	−30	4	16	15	26	2†	31	1	31	3	33	28†	27	30	0	19	7	27	−39	29
Granville	−34	14	−40	2	−23	3	15	1	25	3	28	1	34	3	34[a]	28	26	10	3	30	10	1	−38	29
Hannah	−46	14	−43	2	−30	3	9	14	21	30	26	3	33[l]	2	30	28							−38	29
Hansboro	−40	14	−40[d]	2	−27	4	12	3	22	27	30	1†	33	3	32[j]	28	18	10	0	23	6[b]	1	−40	29
Hettinger	−36	31	−42	2	−15	3	16	20	21	1	29	1	38	2	34	9	26	20†	3	12	10	27	−40	13
Hillsboro	−36	15	−35	2	−31	4	20	2	29	22	30	1	39	2	35	29	20	10	5	23	13	27	−34[a]	29
Howard	−42	31	−44	2	−29	3	5	1	20	1	28	21	28	2	30	29	25	27	5	29	8	26	−40	29
Jamestown	−35	15	−39	2	−26	4	11	1	24	2	33	1†	37	3	35	29	27	10	3[g]	19	2	27	−37	29
Lakota	−38[a]	14	−41	2	−25	3	15	2	24	2†	25[i]	1	33	3	31[e]	28	21	9	− 3	23	3	26	−40	29
Lamoine	−38	14	−45	2	−29[a]	4	12	1	18[a]	1	29[e]	14†	32	2	31	28	27[e]	25†	− 1	12†	9	1†	−36[a]	13†
Langdon	−45	14	−45	2†	−31	4	11	3	21	30	28	3†	35	2†	32	28	23	30	− 2	23	5	27†	−42	29
Larimore	−38	14	−31	1	−26	4	19	8	28	2†	26	1	36	2	38	28†	25	10	7	30	12	25†	−35[a]	29
Linton																	29	20	− 3	23	16	30	−38	13
Lisbon	−37	15	−32	1	−27	4	18	15	25	2	26	1	40	4†	33	29	27	10	6	22	12	9	−35	29
McHenry	−39	14	−40	2	−28	4	15	2†	24	31	27	2	35	2	36	29	28	10	2	23	8	29	−39	29
McKinney	−37	14	−43	2	−25	3	12	1	21	1	23[i]	4	33	2	37	28	24	30	2	23†	11	1	−37[a]	27
McLeod	−33[d]	15	−35	2	−23	4	21	1†	29	2	32	1	40	2†	37	28†	28	10	8	19	16	1†	−32	29
Maddock	−43	14	−44	2	−28	4	15	14	22	27	24	1	30	2†	33	28†	19	10	4	30	6	1	−42	29
Mandan	−30	14†	−40	2	−28	4	15	2	24	2	36	21	40	3	37	28	30	30	7	12	13	30	−37	13
Manfred	−37[a]	14	−40	2	−27	4	15	2	23	2	29	1	35	2†	35	28	25	9	4	12	6	27	−38	29
Marmarth	−39[a]	31	−40[a]	1	−26	3	11[a]	2	25	5†	26	1	40[a]	2†	33[a]	9	29	26	5	22†	14	18†	−35[a]	13
Marstonmoor	−40	14	−45[a]	2	−38[a]	4	10[e]	2	15[l]	2	28	21	27[a]	3	25[c]	29	23[a]	30	− 4	23	− 7[a]	27		
Mayville	−37	14	−36	2	−26	4	19	2	26	22	26	1	37	2	32	31	22	10	10	12†	9	27	−33	29
Melville	−35[h]	14†	−38[a]	2	−22[a]	4	17	2	27[a]	1†	29[k]	21	30	2	40[e]	29	32[h]	10†	6[h]	29†	18[e]	25†	−36[e]	14
Minot	−35	14	−43	2	−26	4	11	5	22	1	26	1	34	2	29	28	24	30	3	12	9	1	−38	29
Minto	−43	14	−40	2	−31	4	18	2†	25	2†	27	4	37	3	35	28†	21	10	6	12	3	27	−37[a]	29
Mott	−35	31	−47	2	−21	3	16	2	28	26	31	21	36	1	32	9	23	26	− 1	18	11	25	−34	29
Napoleon	−35	14	−43	2	−28	4	12	2	19	2	32	21	30	3	29	28	25	30	− 3	23	10	1	−38	29
New England	−38	31	−40	2	−24	4	14	15	23	5	32	14	40	2	33	9	26	26	7	12	12	30	−31	8†
New Salem	−35	31	−45	2	−25	4	6	7	23	2†	30	21	34	3	37	8	29	26	6	19	12	30	−37	29
Orange	−32	14†	−47	2	−23	4	16	4†	24	5	23	1	35	3	31	9	23	26	0	19	9	30	−39	13
Oriska	−33	14			−26	5	18	2†	29	1†			36[a]	3	35	29	22	10						
Park River	−45[a]	22	−35[d]	2	−21[e]	4	18[e]	2†	27[e]	30	30[a]	3†	39[e]	3	44[e]	2†	24[a]	10	8[a]	19†	12[d]	25†	−32[e]	28
Pembina	−44	14	−36	1	−30	3	19	12	29	2†	32	4	43	2†	39	28	24	9	10	12	8	30	−44	10
Sanish	−37	31	−45	2	−29[f]	3					22	2	40	2	35	9	25	30	9	12	12	30	−38[a]	13
Steele	−33	22	−40	2	−22[a]	2	20	1†	26	1	35	2	34	3	38	9	32	26	7	28	10	25†	−38	27
Taylor	−43	31	−48[a]	2	−19	1†	15	7	28	1†	32	1	40	2	35	9	28	26	9	12	10	30	−31	8†
Towner	−39	14	−44	2	−28	4	14	1	24	22	25	4	32	3	32	28	23	10	1	23	5	1	−42	29
Turtle Lake	−31	14	−41	2																				
Wahpeton	−36	15	−37	2	−12	3	22	14	30	2†	32	1†	39	3	37	29	25	10	8	23	17	30	−30	13†
Walhalla	−37[b]	14	−36	2	−23	3	12	2	25	23	25[a]	3	37[f]	3	34	28	22	10	− 1[c]	23	11[g]	25†	−31	27
Washburn	−30[j]	14	−38	2	−22	4	15	1	27	1†	32	4	43	3	36	28	32	26	8	30	10	29	−33	29
Watford	−36	14	−44	2	−32[b]	3	10[b]	7	18[e]	20	19[b]	21												
Westhope	−43	14	−43	2	−30	3	10	1	24	2	28	21	37	2	30	28	25	10	3	30	5	1†	−40	29
Williston	−36	31	−40	2	−26	3	14	1	22	1	33	1	39	2	40	10	27	30	13	29	15	30	−29	12
Willow City	−41	14	−38	1	−29	3†	15	1†	23	2	23	1	32	3	28	28	20	10	5	12†	0[c]	27	−44	29
Zap	−35	31	−45	2	−26	3†	7	7	21	2	25	1	35	2	34	27†	23	30	2	12	12	27	−41	13
Moorhead, Minn.	−32	15	−32	2	−27	4	21	14	28	2	34	1	42	2	41	29	27	10	5	23	13	30	−29	29

† Occurred on other dates also.

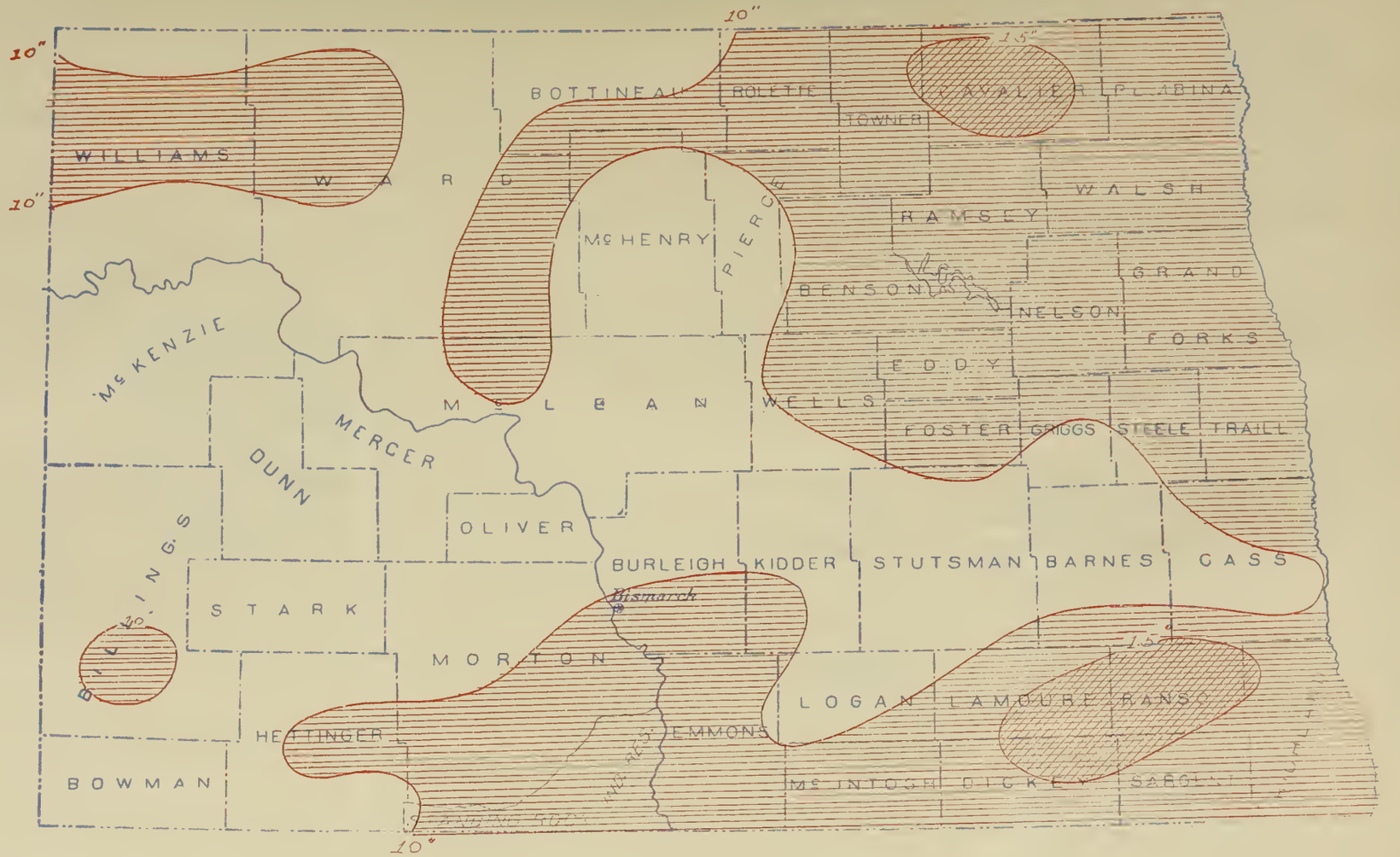
[a] indicates 1 day missing, [b] 2 days missing, etc.

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



⊙Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). △Display or distribution of forecasts.

TOTAL PRECIPITATION FOR THE YEAR 1917



Scale of Shades, in Inches:

Less than 10 | 10 to 15 | More than 15

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Amenia	E. T. Carley.	Epping	M. E. Uggen.	Lisbon	W. S. Adams.	Orange	T. F. Young.
Ashley	R. C. Miles.	Fessenden	G. T. Seymour.	McClusky	R. M. Rishworth.	Oriska	J. J. Taylor.
Beach	D. J. Steiner.	Forman	A. Maltby.	McHenry	P. E. Truden.	Park River	O. J. Seiker.
Berthold Agency	Chas. L. Hall.	Fullerton	F. O. Alin.	McKinney	N. P. Swenson.	Parshall	J. A. Johnson.
Bierman	E. F. Biermann.	Garrison	G. L. Robinson.	McLeod	R. D Markland.	Pembina	C. W. Shumaker.
Bottineau	H. F. Steinmeier.	Grafton	A. R. T. Wylie.	Maddock	F. P. Cowing.	Power	J. Radcliffe.
Bowbells	G. H. Phelps.	Grand Forks	H. E. Simpson.	Mandan	N. G. P. F. Sta.	Powers Lake	Chas. Frank.
Bowman	M. W. Madsen.	Grand Rapids	G. H. Leick.	Manfred	P. B. Anderson.	Sanish	E. H. Senechal.
Buford	P. Elmore.	Granville	W. A. Christianson.	Manning	A. J. Bretzlaff.	Searing	T. C. Taylor.
Cando	E. T. Judd.	Hannah	J. Moffatt.	Marmarth	S. P. Grane.	Steele	H. S. Wood.
Carson	J. W. Evens.	Hansboro	C. E. Blackorby.	Marstonmoor	H. H. McCumber.	Taylor	H. Leutz.
Colgate	S. N. Grimwood.	Hettinger	U. J. Downey.	Mayville	W. C. Gould.	Towner	B. Bagley.
Cooperstown	S. Friswold.	Hillsboro	F. E. Mayall.	Melville	J. P. Kidder.	Turtle Lake	E. S. Jones.
Crosby	B. Lancaster.	Howard	C. P. Amsbaugh.	Milnor	Hj. Edman.	Wahpeton	F. E. Smith.
Dickinson	J. C. Thysell.	Jamestown	S. Calvelage.	Minot	W. I. Faris.	Walhalla	I. DeL. Lee.
Donnybrook	Geo. Michel.	Lakota	C. R. Pettes.	Minto	C. M. Evans.	Washburn	J. T. McCulloch.
Dunseith	J. G. Lamont.	Lamoine	E. V. Virgin.	Mott	O. H. Opland.	Watford	M. E. Johnson.
Eckman	J. Nussbaum.	Langdon	R. T. Burke.	Napoleon	C. J. Hoof.	Westhope	W. A. Meddaugh.
Edgeley	O. A. Thompson.	Larimore	G. G. Graham.	New England	J. M. Connolly.	Willow City	M. A. Ostby.
Energy	N. W. Solenberger.	Linton	Fr. Sailer.	New Salem	J. Christiansen.	Zap	H. A. Crandall.

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Center ‖	W. T. Maher.	Fullerton ‖	F. O. Alin.	Mandan ‖	N. D. Ind. [illegible]. Co.	University ‖	H. E. Simpson.
Crystal* ‖	Postmaster.	Grafton* ‖	Postmaster.	Marion ‖	Postmaste	Valley City §	J. E. Switzer.
Eckman*	Postmaster.	Grand Forks §	R. B. Griffith Co.	Minot† ‖	Postmaste	Wahpeton ‖	Postmaster.
Edgeley † ‖	Postmaster.	Langdon ‖	R. T. Burke.	Neche * ‖	Postmaste	Bismarck † ‖	U. S. Weather Bur.
Edinburg ‖	Postmaster.	Lankin * ‖	Postmaster.	Northwood ‖ §	G. P. Johnson.	Devils Lake † ‖	U. S. Weather Bur.
Englevale* ‖	Postmaster.	Lidgerwood § ‖	M. O. Movius.	Oakes† ‖	Postmaster.	Ellendale † ‖	U. S. Weather Bur.
Fargo ‖	Postmaster.	Lisbon ‖§	Postmaster.	Rugby ‖	Postmaster.	Williston † ‖	U. S. Weather Bur.

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

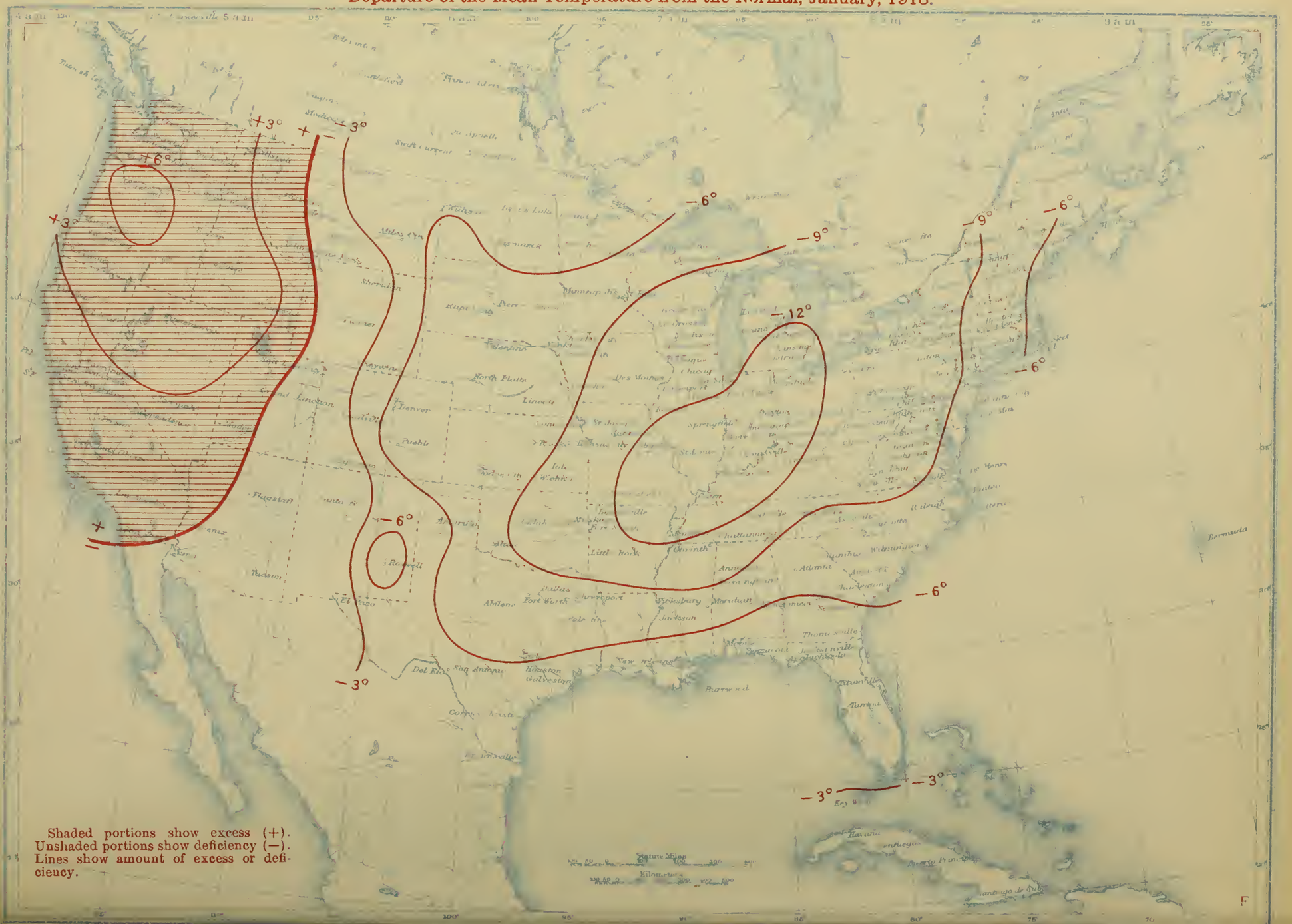
NORTH DAKOTA SECTION

JANUARY, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 28, 1918.

Departure of the Mean Temperature from the Normal, January, 1918.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JANUARY, 1918. No. 1.

GENERAL SUMMARY.

Abnormally cold weather, with deficient precipitation, prevailed over the entire Section. There have been but five colder Januarys in the climatological history of the State. The month opened with mild temperature, but with the exception of the first few days the temperature remained below the normal during the remainder of the month. Much of the time the low temperature was accompanied by high winds, which interfered to a large extent with railway and wagon traffic, and other outside work. The light snowfall allowed livestock on the ranges to secure much feed, and effected a great saving to those interested. Some reports of insufficient snow covering for winter rye were received, but the season is not sufficiently advanced to make an accurate survey.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.13 inches. The highest was 30.87 inches at Bismarck on the 30th; the lowest was 29.29 inches at Devils Lake on the 24th.

TEMPERATURE.

The mean temperature for the State was 0.5°, or 4.4° below the normal, and 2.2° lower than the mean for January, 1917. The highest mean reported was 7.3° at Hettinger, Adams County; the lowest was -7.4° at Westhope, Bottineau County. The highest temperature reported was 48° at Berthold Agency, McLean County, on the 3d; the lowest was -44° at Langdon, Cavalier County, on the 30th. The greatest daily range of temperature was 61° at Jamestown, Stutsman County, on the 25th. The greatest monthly range of temperature was 84° at Taylor, Stark County; the least was 63° at Pembina, Pembina County. The distribution of temperature was fairly uniform geographieally. The first decade was the warmest, and the last the coldest.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 89 per cent, the average at 7 a. m. being 91 per cent, and at 7 p. m. 87 per cent.

PRECIPITATION.

The average precipitation for the State was 0.45 inch, or 0.09 inch below the normal, and 0.28 inch lower than the average for January, 1917. The greatest monthly amount reported was 1.38 inches at Taylor, Stark County; the least was a trace at Cando and Hansboro, Towner County, McHenry, Foster County, McKinney, Renville County, and Westhope, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 0.70 inch at Taylor, Stark County, on the 21st. All of the precipitation occurred in the form of snow, the average for the State being 5.0 inches. Stormy periods were from the 5th to 9th, inclusive, 16th to 19th, inclusive, and on the 23d. Light scattered snows occurred on other dates also. The average number of days with 0.01 inch or more of precipitation was 5.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 11.8 miles. The greatest wind movement was 12,507 miles at Ellendale, an average of 16.8 miles per hour; the least was 6,525 miles at Williston, an average of 8.8 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 58 miles per hour from the northwest at Ellendale on the 23d.

SUNSHINE AND CLOUDINESS.

The sunshine was nearly the normal; the average number of clear days was 12, partly cloudy days 8, and cloudy days 11.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−1.6	58	−52	0.79	+0.25	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.

Climatological Data for January, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	−1.8	−7.1	40	1	−32	30†	48	0.21	−0.24	0.10	.....	5	16	10	5	n.	E. T. Carley.
Ashley	McIntosh	2,001	21	0.4[b]	−7.2	41[a]	1	−33[d]	30	42[d]	0.90	+0.38	0.40	9.0	3	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	0.8[b]	−8.6	41[c]	3	−37	30†	44[c]	0.24	−0.48	0.08	.....	5	18	4	9	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	1.4	−5.3	48	3	−34	31	42	0.59	+0.18	0.33	5.0	4	14	7	10	nw.	C. L. Hall.
Bierman	Slope	.....	2	6.8	.....	46	3	−34	30	29	0.72	.....	0.15	7.4	15	9	2	19	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	1.4	−5.3	43	1	−29	30	33	0.62	+0.08	0.22	10.1	10	7	6	18	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	−4.8	−4.7	36	1	−40	30†	44	0.28	−0.16	0.06	.....	7	10	6	15	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	−4.6	.....	34	4	−36	10†	52	0.30	.....	.....	.....	3	16	0	15	.....	G. H. Phelps.
Bowman	Bowman	.....	4	5.8	.....	42	3†	−37	30	42	0.37	.....	0.11	6.0	7	10	10	11	nw.	W. H. Workman.
Buford	Williams	1,944	39	0.1	−5.7	40	1	−38	13†	36	0.30	−0.20	0.15	.....	5	11	15	5	nw.	P. Elmore.
Cando	Towner	1,488	17	−6.8[b]	−5.8	35[b]	2	−43[b]	30	44[b]	T.	−0.40	T.	T.	0	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	2.8	.....	40	1†	−38	30	37	0.60	.....	0.20	6.0	8	7	16	8	nw.	J. W. Evens.
Colgate	Steele	1,177	4	−1.0	.....	37	1	−34	30	40	0.17	.....	0.10	1.7	3	12	7	11	n.	S. N. Grimwood.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. Friswold.
Crosby	Divide	1,954	11	−0.8	−2.4	40	1	−33	31	33	0.62	+0.04	0.25	6.2	5	10	5	16	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	14	−4.6	−4.9	37	1	−36	30	36	0.24	−0.36	0.08	2.8	9	8	5	18	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	1.8	−8.6	40	1	−34	12†	44	0.39	−0.06	0.25	2.8	5	10	4	17	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	19	−0.8	−4.4	41	1	−32	11†	35	0.25	−0.10	0.10	3.0	5	15	9	7	nw.	Geo. Michel.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.15	.....	3	.....	.....	.....	.....	.....
Dunseith	Rolette	1,682	22	−2.8	−6.1	38	1	−36	30†	36	0.07	−0.39	0.03	0.8	3	12	1	18	nw.	J. G. Lamont.
Eckman	Bottineau	.....	13	−3.2	−3.8	35	24	−35	30†	46	0.40	−0.16	0.10	4.0	4	18	9	4	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	1.7	−6.1	42	1	−30	11	37	0.17	−0.13	0.07	.....	5	9	16	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	1.4	.....	43	1	−28	30	31	0.42	.....	0.12	4.2	9	9	8	14	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.48	.....	0.18	.....	7	5	17	9	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.33	9.0	6	14	5	12	nw.	M. E. Uggen.
Fessenden	Wells	1,610	6	−3.0	.....	39	2	−34	30	52	0.44	.....	0.10	4.2	6	16	5	10	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	−1.0[b]	−7.9	36[b]	24	−25[b]	30	45[b]	0.08	.....	0.05	0.8	3	.....	.....	.....	nw.	A. Maltby.
Fullerton	Dickey	1,439	20	2.4	−6.0	42	1	−30	30	31	0.47	−0.18	0.34	4.7	3	5	8	18	nw.	F. O. Alin.
Garrison	McLean	1,901	23	0.5	−7.7	41	3	−33	30	34	0.46	−0.05	0.11	4.5	5	10	13	8	nw.	G. L. Robinson.
Grafton	Walsh	827	26	4.4	−5.8	29[a]	24	−38	30	42	0.54	−0.04	0.13	4.6	7	14	2	15	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	3.6	−7.6	31	24	−35	30	34	0.50	−0.02	0.15	5.0	8	16	4	11	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	1.2	.....	41	1	−32	30	38	0.50	.....	0.30	5.0	2	19	0	12	nw.	G. H. Leick.
Granville	McHenry	1,504	11	0.2	−1.9	40	1	−32	30	42	0.42	+0.01	0.20	.....	5	9	9	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	6.6	−4.6	28	3	−43	30	38	0.40	−0.61	0.20	4.0	3	14	11	6	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	5.0	.....	38	1	−38	26	47	T.	.....	T.	T.	0	10	16	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	7.3	−5.7	46	4	−33	30	31	0.02	−0.31	0.01	0.2	2	21	6	4	nw.	U. J. Downey.
Hillsboro	Traill	901	12	2.0	−5.9	32	24	−33	30	47	0.50	−0.27	0.10	5.0	6	3	23	5	nw.	F. E. Mayall.
Howard	Williams	2,275	11	3.0	−4.9	40	1	−38	30	48	0.50	−0.33	0.20	5.0	4	11	13	7	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	26	4.0	−11.2	40	1	−41	11	61	0.35	−0.19	0.30	3.5	3	12	2	17	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	4.4	−3.2	30	24	−38	30	45	0.52	−0.18	0.24	13.0	5	11	9	11	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	3.9	−7.9	38	1	−38	30	39	.....	.....	.....	.....	.....	21	2	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	6.6	−4.5	28	1†	−44	30	39	0.40	−0.31	0.20	4.0	3	.....	.....	.....	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	2.8	−6.1	32	1	−35[a]	30	37[a]	0.80	+0.30	0.10	8.0	9	16	0	15	nw.	G. G. Graham.
Linton	Emmons	1,711	.....	1.6	.....	44	1	−29	30	32	0.50	.....	0.30	.....	3	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	3.2	−2.7	36	3	−33	30	41	0.85	+0.22	0.30	8.5	5	17	6	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.20	9.0	7	19	1	11	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	−3.5	.....	35	1	−37	30	38	T.	.....	T.	T.	0	19	9	3	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	−3.4[a]	−6.7	35[b]	1	−32[a]	26†	33[b]	T.	−0.36	T.	T.	0	.....	.....	.....	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	2.0[b]	.....	40[c]	1	−32	30	49[c]	1.10	.....	0.20	11.0	10	13	1	17	nw.	R. D. Markland.
Maddock	Benson	1,604	3	−2.7	.....	36	1	−37	30	40	0.30	.....	0.30	.....	1	3	11	17	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	1.2	.....	43	1	−30	30†	51	0.20	.....	0.10	.....	3	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	−0.8	−4.8	35	1†	−31	30†	40	0.46	−0.22	0.18	5.5	6	14	10	7	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	5.2	.....	44	2†	−38	30	37	0.80	.....	0.20	10.8	12	7	11	13	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	22	−0.8	−7.4	34	25	−35	30	53	0.28	−0.09	0.09	.....	7	16	4	11	n.	W. C. Gould.
Melville	Foster	1,590	20	−0.4	−6.8	34	1†	−32	30	44	0.30	−0.05	0.30	3.0	1	10	9	12	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.55	3.5	2	12	9	10	nw.	Ilj. Edman.
Minot	Ward	1,557	22	−1.6	−7.4	42	1	−33	31	56	0.43	+0.06	0.20	4.2	5	10	9	12	nw	W. I. Faris.
Minto	Walsh	820	25	−4.2	−6.0	31	23	−39	30	35	0.28	−0.20	0.08	.....	7	16	5	10	nw.	C. M. Evans.
Mott	Hettinger	2,424	11	3.6	−4.0	44	24	−36	30†	37	0.88	+0.04	0.28	9.0	6	9	10	12	nw.	O. H. Opland.
Napoleon	Logan	1,955	26	−1.7	−8.0	40	1	−38	30	48	0.10	−0.41	0.05	2.0	2	9	3	19	nw.	C. J. Hoof.
New England	Hettinger	2,400	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,163	13	1.0	−6.8	46	3	−35	30	31	0.89	+0.23	0.25	8.9	8	9	9	13	nw.	J. Christiansen.
Orange ††	Adams	2,586	9	3.5	.....	44	3	−33	30	37	0.50	.....	0.30	5.0	2	7	12	12	nw.	T. F. Young.
Oriska	Barnes	1,270	13	−2.2[d]	−7.0	36[d]	24	−30[b]	30	48[c]	0.05	−0.53	0.05	0.5	1	.....	.....	.....	nw.	J. J. Taylor.
Park River	Walsh	998	14	−3.9[b]	−5.7	31[b]	24	−35[b]	30	33[b]	0.05	−0.38	0.05	0.5	1	.....	.....	.....	nw.	O. J. Sieker.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.26	.....	2	16	7	8	nw.	J. A. Johnson.
Pembina	Pembina	789	44	−6.4	−3.7	25	4	−38	30	30	0.35	−0.24	0.20	3.5	3	8	14	9	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.10	2.5	4	7	13	11	nw.	C. Frank.
Sanish	Mountrail	2,260	4	1.4[a]	.....	40[b]	1	−35	31	40[b]	0.80	.....	0.30	8.0	3	9	11	11	nw.	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	−0.8	−9.7	40	1	−38	31	28	1.18	+0.83	0.38	9.5	5	9	21	1	nw.	H. S. Wood.
Taylor	Stark	2,493	2	5.4[a]	.....	44[b]	24	−40	11	35[c]	1.38	.....	0.70	.....	5	9	10	12	nw.	H. Leutz.
Towner	McHenry	1,482	16	−2.6	−5.4	38	1	−35	30	54	0.30	−0.24	0.20	3.0	2	15	8	8	nw.	B. Bagley.
Wahpeton	Richland	962	24	−1.2	−9.2	38	2	−34	30†	49	0.32	−0.11	0.11	.....	7	7	5	19	nw.	F. E. Smith.
Walhalla	Pembina	966	11	−2.6[a]	−2.3	30[a]	24	−43[a]	26	40[a]	0.40	−0.43	0.20	4.0	2	.....	.....	.....	n.	Ivan Lee.
Washburn	McLean	1,734	19	−0.6	−8.3	41	3	−34	30	39	0.74	−0.35	0.25	7.4	6	.....	.....	.....	nw.	J. T. McCulloch.
Westhope	Bottineau	1,508	12	−7.4[a]	−6.2	41[a]	1	−40[a]	30	37[a]	T.	−0.49	T.	T.	0	.....	.....	.....	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	0.2	−6.3	40	1	−33	13	46	0.75	+0.17	0.18	5.9	10	4	13	14	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	−5.3	−6.2	35	1	−40	30	38	0.40	+0.05	0.20	4.0	3	9	17	5	nw.	M. A. Osby.
Zap	Mercer	1,800	5	−0.8	.....	40	3	−37	31	28	0.28	.....	0.12	9.6	6	7	10	14	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	−1.4	−4.1	34	24	−30	30	32	0.61	−0.10	0.19	6.1	12	12	5	14	nw.	U. S. Weather Bureau.
Averages				0.5	−4.4	48	3	−44	30	61	0.45	−0.09	0.70	5.0	5	12	8	11	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Orange, Thunder Hawk, S. D.

Daily Precipitation for January, 1918.

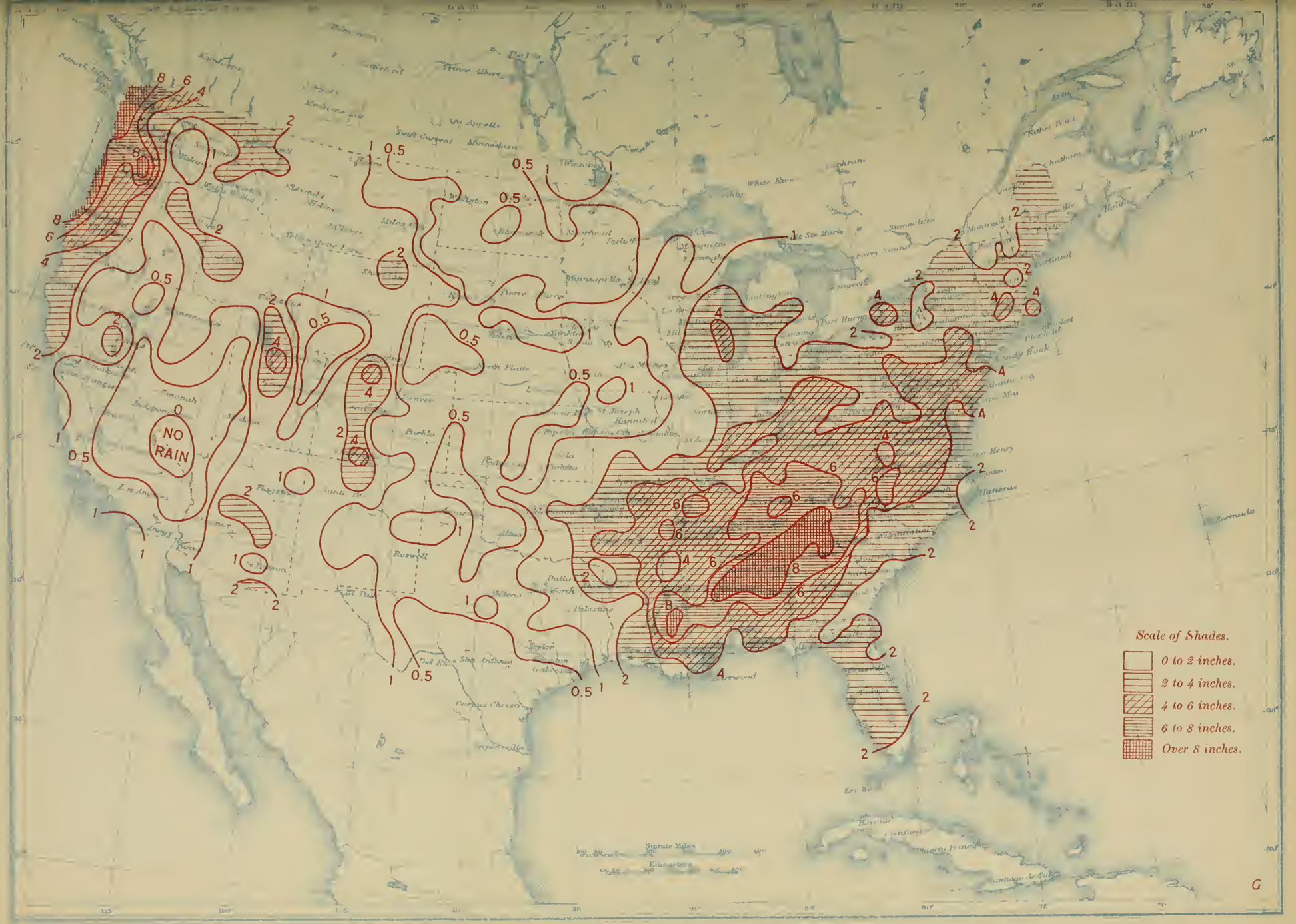
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red					.04				.02		.10					.03	.02	T.														0.21
Ashley	Missouri								.30	.20														.40									0.90
Beach	Lit. Missouri										.03					.02	.05							.08					.06				0.24
Berthold Agency	Missouri				.02			.11		T.							.33		T.		T.			.13					T.	T.			0.59
Bierman	Lit. Missouri					.04	.03	.06		.05	.05						.05			.03			.03		.05	.02		.03	.05	.03	.05	.15	0.72
Bismarck ***	Missouri		T.		.06	T.	T.	.20	.02	.05		.01				T.	.03	.02	T.	T.	T.	T.	.08	.12				T.	T.	.03			0.62
Bottineau ‖	Mouse	T.				.12		T.		.04						.01	.03	.01	T.			T.		.06	T.				.01				0.28
Bowbells ‖	Mouse																							*	*	.30							0.30
Bowman	Grand					.02	T.	.05	T.	T.				T.			.07			T.	T.		.01	.07	T.	T.	.04			.11			0.37
Buford	Missouri					.02	T.	.15								.03	.07	.03										T.		T.			0.30
Cando	Sheyenne					T.																											T.
Carson	Heart					.02		.03	.05	.10		.10					.20							.05						.05			0.60
Colgate	Sheyenne	T.			.10	.05				T.							.02		T.					T.	T.	T.							0.17
Cooperstown	Sheyenne																																
Crosby	Mouse				.05	.02	T.	.25	T.	T.							.20							.10									0.62
Devils Lake ***	Sheyenne	T.			.08	T.	T.			.02		.03			T.	.02	.04	T.	.01	.01	.01			.02	T.								0.24
Dickinson ‖	Heart				T.	.01	T.	T.	.10							T.	T.							.25	T.				.02	.01			0.39
Donnybrook	Mouse				.05		T.	T.			.05					.10								.03	.02								0.25
Dunn Center	Knife										.12						.13							.15									0.40
Dunseith	Mouse	.02										.02												.03				T.	T.				0.07
Eckman	Mouse					.10		T		.10							.10			T.									.10				0.40
Edgeley	James					.05		.07		.01							.02							.02									0.17
Ellendale	James				.03	.12		.01	.03	.04	T.	.02					.01	T.	T.	T.	T.	T.		.12	T.			T.	T.	.04		T.	0.42
Energy	Missouri		T.		T.		T.	.04		.10	.05	.02				T.	.07	T.	T.	T.	T.	T.	.02	.18				T.	T.				0.48
Epping	Missouri							.10								.15	.33	.15			.10							.04					0.87
Fessenden ‖	James					.09					.05						.10	.10	T.	T.	T.			.05	.05								0.44
Forman	Sheyenne																.02					.01		.05									0.08
Fullerton	James				.03	.10				T.			T.				T.	T.	T.	T.	T.	T.		.34						T.		T.	0.47
Garrison	Missouri		T.				T.	.09	.08	.11							.11	.07	T.	T.				T.									0.46
Grafton ‖	Red					.08	.02						.13			.09	.11							.03		.08							0.54
Grand Forks	Red	T.				.06				T.		.06		T.		T.	.03	T.	.02	.06	.01			.15	.11								0.50
Grand Rapids	James				.30																			.20									0.50
Granville	Mouse			.03		.04		T.		T.		T.				.05	.20				T.	.10											0.42
Hannah	Pembina	.10			T.								.10				.20																0.40
Hansboro	Red	T.			T.					T.															T.								T.
Hettinger	Grand							T.			T.										T.			.01	.01								0.02
Hillsboro	Red	.05				.10						.10					.10		.05			T.		.10									0.50
Howard	Missouri				T.	.05		.10								.20					.15												0.50
Jamestown ‖	James				.30					.02							T.		T.					T.					.03				0.35
Lakota	Sheyenne									.08							.24				.08			.04	.08								0.52
Lamoine	Missouri																																
Langdon ‖	Pembina					.20														.10				.10									0.40
Larimore ‖	Red					.05							.10				.10	.10	.10	.10				.10		.10			.05				0.80
Linton	Missouri							.30	T.	T.		T.											.05	.15					T.				0.50
Lisbon ‖	Sheyenne	T.				.30											.20	.10	.05					.20	T.								0.85
McClusky	Missouri				.20			.15		.05							.20		.15		.05			.10									0.90
McHenry	James																		T.	T.	T.			T.									T.
McKinney	Mouse					T.		T.		T.																							T.
McLeod	Sheyenne				.20	.20	.10					.15	.05					.05	.10	.10	.10	T.		.05					T.	T.			1.10
Maddock	Sheyenne																						.30										0.30
Mandan ‖	Missouri					.05			.10	T.	T.						T.	T.						.05					T.	T.			0.20
Manfred	Sheyenne				.04	.04				.08		T.				T.	.18		T.	.04	T.		.08		T.								0.46
Marmarth	Lit. Missouri					.02		.11	.05	.05				.03	T.	T.	*	.10		T.	T.	T.	.02	.12	T.	*	.10	T.		.20	T.		0.80
Marstonmoor	James																																
Mayville	Red									.01			.08				.09	.06	.01	.02									.01				0.28
Melville	James				.30														T.														0.30
Milnor	Red				T.	.55			T.									T.						.10									0.65
Minot ‖	Mouse					.05			.03		.05							.20						.10									0.43
Minto	Red	T.			.02	.03	.01			.03							.08	.06									.05						0.28
Mott	Cannon Ball							.05	.26		.05					.06	.28												.18		T.		0.88
Napoleon ‖	Missouri					.05		.05																									0.10
New England	Cannon Ball																																
New Salem	Heart						.05	.20	.05	.10		.01	T.			T.	.25		T.	T.		T.		.20					T.	.03			0.89
Orange	Cannon Ball									.30																			.20				0.50
Oriska	Sheyenne						T.			T.		.05	T.				T.														T.		0.05
Park River	Red					T.											T.		.05					T.	T.								0.05
Parshall	Missouri					T.	.26	.18																									0.44
Pembina ‖	Red															.10					.20				.05								0.35
Powers Lake	Missouri				T.	.05	T.	.05								.10	.05																	0.25
Sanish	Missouri			T.				.30									.20						.30	T.				T.					0.80
Searing	Lit. Missouri																																
Steele	Missouri				T.	.13		.36	.38	.25												.06			T.					T.			1.18
Taylor	Heart					.03			T.	.08							T.		T.		.70			.45						.12			1.38
Towner	Mouse																.10			T.				.20									0.30
Wahpeton ‖	Red		T.			.11	T.				T.	T.	.02				T.	.06	T.	.02	T.	T.		.04	.03						.04		0.32
Walhalla	Pembina											.20					.20	T.		T.					T.								0.40
Washburn	Missouri				.08			.25		.07								.20						.10						.04			0.74
Westhope	Mouse					T.		T.		T.																							T.
Williston ***	Missouri				.05	.07		.18	.02	.08						.02	.13	.02	T.	T.	.01	T.	.17	T.	T.				T.	T.			0.75
Willow City	Mouse				T.	.20				.10	T.				T.	T.	T.	T.	T.		T.			.10	T.								0.40
Zap	Knife							.12		.04							.03							.05					.02	.02			0.28
Moorhead, Minn ***	Red		.02		.04	.07				.01	.01	.08				T.	.08	.02		.06	.01			.19		T.			T.	.02			0.61

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	40	17	30	22	15	11	2	11	−14	−10	1	4	4	10	7	17	6	15	18	18	18	8	18	35	1	−12	1	−2	−13	−12	−2	8.4
	Minimum	− 8	0	− 1	15	11	− 2	−19	−20	−14	−24	−22	−18	−10	−14	−12	−10	− 7	− 8	4	2	− 6	−14	− 17	1	−15	−28	−29	−13	−28	−22	−32	−11.9
Ashley	Maximum	41	38	38	30	25	7	3	8	9	− 2	−17	−12	− 4	3	11	....	13	11	11	15	15	6	33	37	31	−10	2	− 4	− 3	−16	−12	[a]10.1
	Minimum	23	2	10	15	5	− 8	−22	− 6	−18	−22	−32	−22	−23	− 6	−17	....	....	....	....	5	4	−16	− 1	17	−11	−22	−20	−12	−20	−33	−25	−[a]9.4
Beach	Maximum	36	37	41	36	30	28	20	10	− 9	−28	−20	− 6	1	− 1	13	12	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	12.5
	Minimum	18	20	20	20	16	12	10	−34	−18	−33	−34	−35	−20	−25	− 2	1	0	− 6	−10	− 8	− 6	− 5	−22	−26	−13	−19	−20	−20	−29	−37	−37	−11.0
Berthold Agency	Maximum	46	38	48	37	30	8	10	11	7	− 5	− 6	−10	− 3	8	12	10	8	10	16	19	18	15	37	37	23	− 8	8	1	−11	15	− 4	12.7
	Minimum	16	10	9	14	4	− 8	2	−17	− 9	−26	−29	−32	−30	−25	− 9	1	2	− 8	8	6	2	−20	9	13	−19	−23	−22	−17	−28	−31	−34	10.0
Bismarck	Maximum	43	23	43	28	17	7	7	5	6	− 8	−14	−10	− 1	3	11	9	9	11	16	18	14	20	36	37	4	− 9	5	4	−16	−17	−10	9.4
	Minimum	23	4	18	17	− 4	− 8	− 5	−10	− 8	−27	−28	−23	−22	−16	− 8	3	3	4	8	10	0	−10	17	4	−13	−18	−16	−20	−26	−29	−28	− 6.7
Bottineau §§	Maximum	36	19	30	25	15	2	3	2	2	−12	−10	−11	− 3	5	6	12	13	14	15	14	− 2	19	23	31	6	−12	2	−13	−20	−18	− 3	5.8
	Minimum	− 5	− 6	− 3	15	2	−12	−18	−13	−12	−30	−34	−24	−23	−15	−22	−13	1	5	2	2	−10	−24	−21	6	−24	−35	−35	−15	−32	−40	−40	−15.3
Bowbells §§	Maximum	31	30	30	34	15	1	5	0	−12	−10	−12	−14	3	4	4	8	7	10	12	3	32	20	20	21	8	5	3	5	16	19	5	7.2
	Minimum	11	0	2	1	0	−13	−17	−18	−30	−36	−34	−34	−33	−19	−16	−10	− 1	− 8	− 2	− 6	−20	−20	− 10	8	−23	−31	−28	−20	−32	−36	−35	−16.5
Cando	Maximum	30	35	30	25	14	− 2	5	0	7	−29	−13	− 6	− 3	− 2	3	6	7	12	21	19	17	2	....	....	−17	−10	−10	0	− 5	−15	− 9	[b] 3.9
	Minimum	− 5	− 9	9	14	− 2	−10	−26	−19	−34	−34	−35	−23	−17	−11	−21	−11	−19	3	3	6	−13	−25	....	....	−27	−28	−38	−25	−34	−43	−33	[b]17.5
Carson	Maximum	40	35	40	35	25	10	10	10	8	−10	−10	− 4	5	10	12	10	12	12	15	15	17	35	35	25	16	− 1	5	−10	−18	−15	13.0	
	Minimum	27	12	20	10	0	−12	4	−10	−12	−28	−32	−29	−26	−24	− 8	5	1	2	6	0	1	5	12	15	−12	−18	−20	−17	−25	−38	−35	− 7.3
Crosby	Maximum	40	36	39	32	17	11	13	10	7	−20	−22	−16	− 7	− 4	9	5	5	16	17	20	9	15	35	33	0	− 6	5	− 4	−20	−22	−12	7.8
	Minimum	25	9	21	13	1	0	5	−12	−20	−27	−31	−31	−29	−27	−11	0	− 3	− 4	5	3	− 3	−15	−14	0	−24	−24	−11	−20	−28	−32	−33	− 9.3
Devils Lake	Maximum	37	15	30	26	10	2	− 3	2	1	−15	−14	− 9	− 3	2	4	13	10	13	15	13	5	6	19	31	5	−19	1	1	−22	−17	− 8	4.5
	Minimum	4	− 2	12	10	− 1	−19	−24	−17	−15	−30	−32	−25	−15	−13	−17	1	− 4	4	0	0	−14	−20	6	− 5	−26	−34	−19	−27	−33	−36	−30	−13.6
Dickinson	Maximum	40	33	39	38	22	16	20	12	3	− 8	−21	−11	− 5	10	12	10	9	10	12	17	16	34	33	35	18	− 5	9	− 4	−15	−14	−12	11.4
	Minimum	12	17	21	22	12	2	4	−10	− 8	−28	−32	−34	−29	−25	− 5	1	− 2	−12	−10	3	1	−10	− 3	18	−10	−16	−19	−15	−22	−34	−34	7.9
Donnybrook	Maximum	41	36	36	31	20	4	5	5	5	− 8	−16	− 9	− 4	4	6	7	8	10	16	17	6	10	33	32	11	− 8	2	4	−17	−16	−10	8.4
	Minimum	22	0	20	18	0	−15	− 5	−18	−13	−27	−32	−30	−21	−16	−11	− 1	1	− 4	4	0	− 5	−18	5	11	−18	−30	−16	−21	−29	−32	−29	−10.0
Fanscith	Maximum	38	20	35	30	10	12	− 3	2	2	14	−12	− 7	1	7	3	10	10	15	15	15	14	− 7	25	31	13	16	− 3	0	−20	−13	−13	6.5
	Minimum	11	− 4	8	10	− 1	− 4	−18	−16	−14	−27	−31	−23	−11	− 9	−11	− 1	1	5	1	1	− 7	23	−13	− 7	−23	−33	−23	−32	−36	−36	−12.2	
Edgeley	Maximum	42	36	38	32	23	7	0	− 3	9	2	− 3	−12	0	5	9	13	11	14	13	16	16	8	33	37	24	−11	4	2	−14	−13	− 7	10.7
	Minimum	11	13	11	19	9	− 2	−22	−12	−16	−21	−30	−20	−17	−11	− 8	− 1	− 1	4	5	7	3	−13	− 3	−15	−12	−24	−19	−14	−22	−29	−23	− 7.3
Ellendale	Maximum	43	15	38	27	19	6	− 1	2	9	− 7	−10	− 5	5	5	9	13	9	13	13	19	17	8	35	38	15	−11	3	1	−16	−16	− 7	9.3
	Minimum	15	7	13	8	5	−11	−18	−10	−12	−22	−27	−15	−13	− 9	− 7	1	3	4	6	10	− 2	−10	7	15	−16	−22	−17	−17	−22	−28	−23	− 6.4
Fessenden §§	Maximum	39	23	34	25	16	3	0	1	2	−20	−11	− 7	3	4	7	10	10	12	14	14	9	32	32	35	11	−10	1	−12	−18	−13	0	7.9
	Minimum	0	− 4	− 3	−16	2	− 4	−25	−20	−20	−24	−32	−28	−28	−26	−17	−11	− 2	− 1	2	2	0	−20	−20	11	−20	−30	−30	−25	−29	−34	−33	−13.9
Forman	Maximum	....	....	....	....	....	....	....	1	8	8	− 4	− 5	3	6	10	14	14	....	14	19	16	6	31	36	35	− 5	4	5	− 6	− 6	− 6	[b] 8.6
	Minimum	....	....	....	....	....	....	....	− 8	−12	−15	−27	−15	−22	−12	−15	2	− 3	....	2	9	5	−12	− 5	14	−10	−23	−22	− 9	−20	−28	−20	−[b]10.7
Fullerton	Maximum	42	37	35	27	21	8	− 2	0	8	3	− 8	− 5	3	7	10	13	8	13	13	19	17	9	35	37	16	1	5	1	−11	−16	− 6	11.0
	Minimum	13	6	13	18	8	− 8	−20	−10	−14	−19	−28	−16	−16	−11	−11	1	2	5	6	10	3	−11	6	15	−12	−23	−18	−11	−20	−30	−21	− 6.2
Garrison	Maximum	39	36	41	35	27	3	6	6	3	− 9	−15	−15	− 7	− 2	7	6	12	11	15	15	15	4	32	34	16	− 5	1	− 1	− 8	−17	−11	8.8
	Minimum	19	3	13	16	− 1	−18	− 3	−14	− 9	−29	−32	−30	−25	−19	−14	0	1	− 2	5	4	2	−18	6	15	−18	−26	−22	−15	−28	−33	−32	− 9.8
Grafton §§	Maximum	27	18	27	22	15	9	− 3	4	5	−13	−10	0	3	6	13	20	10	16	14	13	8	− 4	16	29	− 7	−17	4	− 3	−20	−12	....	[a] 6.3
	Minimum	−15	−16	− 6	15	5	− 4	−23	−22	−20	−20	−23	−22	−15	− 5	−12	− 5	−10	− 9	2	8	− 6	−20	18	− 7	−22	−37	−35	−20	−32	−38	−36	−15.1
Grand Forks	Maximum	25	18	26	26	14	3	− 7	− 5	2	− 7	−10	− 2	2	5	4	19	5	16	14	18	6	1	16	31	− 3	−19	5	0	−16	−12	− 6	5.5
	Minimum	8	− 4	18	13	3	−17	−23	−18	−16	−23	−23	−20	−10	−11	−11	− 7	− 7	− 7	4	0	−15	−17	− 7	3	−28	−32	−25	−21	−29	−35	−32	−12.7
Granville	Maximum	40	37	25	35	18	5	− 4	5	3	− 5	−10	− 8	− 2	− 5	8	10	12	12	15	18	12	5	35	35	20	5	4	−16	−10	−12	−10	8.6
	Minimum	28	− 5	15	18	−12	−16	−18	−20	−12	−25	−30	−28	−15	−15	−16	0	5	0	5	5	− 8	−16	20	20	20	−18	−20	−20	−30	−32	−22	− 9.1
Hannah	Maximum	24	10	28	21	16	3	− 8	6	6	−15	− 8	− 6	− 4	3	4	5	8	8	5	15	7	1	16	21	8	12	2	− 1	18	−17	−10	3.9
	Minimum	6	− 5	10	12	3	−20	−29	−20	−15	−26	−31	−27	−21	−19	−18	−14	−12	− 3	− 6	− 3	−10	−29	−15	− 9	30	−41	−18	−20	−38	−43	−35	−17.0
Hansboro	Maximum	38	13	34	33	13	4	− 1	2	2	− 9	−10	−11	0	10	10	0	10	17	14	17	14	5	20	32	10	−13	− 2	4	−11	−12	− 5	7.0
	Minimum	− 9	−12	8	8	− 1	−13	−28	−23	−16	−28	−30	−27	−18	−15	−20	−26	−18	−10	2	4	2	−24	−18	6	−30	−38	−20	−22	−37	−37	−35	−16.9
Hettinger	Maximum	43	36	43	46	28	27	18	32	18	12	−10	− 3	− 5	6	14	17	12	13	12	15	17	26	37	38	12	0	12	10	− 5	−15	−12	15.9
	Minimum	12	15	28	22	10	12	13	5	10	−10	−32	−24	−16	−18	− 3	6	5	5	3	3	6	− 2	23	18	− 5	−15	−20	− 9	−24	−33	−24	−13.0
Howard	Maximum	40	32	35	30	15	11	11	15	7	−15	−25	−20	−18	− 3	0	3	7	6	16	15	10	25	35	32	10	− 5	5	0	−18	−21	−17	7.0
	Minimum	28	15	18	−18	− 7	− 7	8	−12	−20	−32	−33	−33	−33	−23	−16	− 5	−10	−13	1	− 4	− 3	−15	16	−10	−23	−28	−19	−28	−28	−38	−34	−13.0
Jamestown §§	Maximum	40	16	33	30	12	10	3	− 3	− 8	−10	−11	− 6	2	4	9	12	11	13	12	16	13	16	34	35	26	−12	6	− 6	−19	−15	− 3	8.0
	Minimum	16	5	5	12	10	− 2	−21	−22	−27	− 26	−41	−27	−31	−26	−11	−15	− 8	−10	− 6	− 6	8	−12	−13	− 3	−35	−37	−36	−26	−35	−40	−40	−16.1
Lakota	Maximum	29	16	26	27	14	8	1	− 2	4	−10	−11	4	− 2	1	4	11	11	11	19	13	10	8	13	30	19	−10	− 5	− 6	− 8	− 9	−12	6.6
	Minimum	9	−11	− 9	13	−10	−13	−13	−27	−18	−25	−31	−24	−20	− 9	−19	− 1	− 8	1	−15	8	− 5	−26	−19	− 3	−23	−35	−29	−11	−34	−30	−32	−15.4
Lamoine	Maximum	38	32	30	32	18	0	0	0	0	− 6	−14	−18	− 7	− 3	− 4	4	8	8	9	11	11	11	18	33	20	17	− 1	0	−15	−21	−13	5.3
	Minimum	19	18	15	14	−20	−12	−20	−18	−18	−27	−34	−32	−26	−20	−21	− 5	1	0	0	− 1	− 1	−21	− 1	− 1	−19	−29	−27	19	−29	−38	−34	−13.1
Langdon	Maximum	28	15	26	25	10	− 5	− 5	1	− 5	−18	− 7	− 5	0	2	10	15	10	12	14	13	7	7	17	28	8	10	2	− 5	−18	−12	− 2	4.6
	Minimum	− 5	− 6	− 8	10	2	− 7	−25	−22	−18	−25	−35	−27	−22	− 8	−17	−11	−11	−11	0	0	−11	−27	−22	− 8	−26	−37	−39	−18	−37	−44	−40	−17.9
Larimore §§	Maximum	32	17	27	20	18	5	− 4	−18	5	− 5	−11	0	1	5	10	17	2	12	15	15	10	9	25	31	− 4	−18	− 5	5	−20	−12	0	5.9
	Minimum	5	5	7	18	5	− 4	−21	−19	− 5	−20	−26	−21	−16	− 6	−11	0	−11	− 1	2	8	0	−20	−12	− 4	21	−33	−32	−31	....	−35	−33	−11.4
Lisbon §§	Maximum	32	35	36	28	12	16	4	− 4	26	14	14	6	10	12	13	15	18	19	15	17	15	20	26	32	12	6	2	0	− 6	− 5	6	14.4
	Minimum	6	− 6	14	12	6	4	−10	−10	−14	14	−19	−27	−17	−13	−11	− 5	− 4	− 3	0	− 8	−10	−12	0	6	−10	16	−17	−21	−19	−33	−24	− 8.0
McHenry	Maximum	35	12	29	30	25	7	− 3	5	−10	−20	−11	−15	2	5	4	15	12	11	13	17	13	3	24	32	13	−18	0	− 9	−18	−16	−16	5.5
	Minimum	5	0	11	9	− 2	− 3	−22	−15	−20	−23	−29	−25	−19	−11	−10	1	− 4	5	− 2	7	−10	−22	− 6	8	−25	−32	−28	−23	−33	−37	−31	−12.5
McKinney	Maximum	35	33	25	25	20	− 5	0	0	0	−10	−16	−16	−10	− 4	4	10	14	18	14	14	− 4	9	....	....	15	−10	2	2	−20	−20	−12	[b] 3.9
	Minimum	14	2	12	12	− 5	−22	− 7	−19	−10	−27	−30	−30	−21	−13	−11	1	5	− 2	8	3	− 4	−17	....	14	−18	−32	−14	−21	−28	−32	−27	−[a]10.6
Maddock	Maximum	36	35	30	26	18	2	− 2	2	2	− 7	−10	−10	− 1	0	5	12	11	11	13	13	3	− 27	32	17	−18	1	2	−19	−17	− 8	7.1	
	Minimum	12	− 4	12	15	0	− 7	−23	−17	−15	−25	−34	−29	−18	−12	−18	− 1	− 6	− 3	− 1	6	− 6	−25	− 6	10	−23	−32	−24	−20	−32	−37	−31	−12.5
Marmarth	Maximum	39	44	44	41	30	29	34	31	20	−13	−24	− 6	− 4	16	11	10	9	11	15	15	17	28	31	34	− 4	− 2	13	9	− 9	−20	−12	14.1
	Minimum	32	23	34	30	18	15	15	13	−13	−30	−31	−27	−17	−20	− 4	3	− 4	−12	− 7	− 7	3	3	22	10	− 6	−18	−24	− 9	−31	−38	−36	− 3.6
Minot §§	Maximum	42	30	39	27	17	6	7	9	6	−15	−12	− 4	3	5	10	9	11	12	11	17	11	35	35	35	16	−12	5	−10	−17	−11	5	10.4
	Minimum	3	− 1	− 1	17	2	18	−11	−17	−20	−27	−32	−30	−30	−20	−16	− 6	0	− 2	− 1	2	− 1	−21	−21	16	−18	−31	−30	−18	−31	−32	−33	−13.7
Mott	Maximum	33	37	42	38	28	23	19	14	9	−20	−21	12	9	0	22	20	10	9	14	20	18	25	39	44	25	− 2	0	− 3	−12	−20	−13	13.5
	Minimum	17	20	23	17	15	11	2	− 2	−13	−29	−33	−24	−25	−27	0	0	− 1	−14	7	4	− 2	−10	18	15	−12	−16	−21	−18	−22	−36	−36	− 6.2
Napoleon §§	Maximum	40	18	38	27	10	5	3	6	5	−12	−13	−14	− 4	0	7	10	8	10	14	13	10	33	33	36	10	−10	2	− 7	−13	−19	−12	7.5
	Minimum	11	− 3	0	10	5	− 5	−20	−15	−15	−20	−35	−27	−26	−20	−18	− 1	0	0	− 1	0	0	−15	5	15	−14	−25	−23	−15	−25	−38	−33	−10.9
New Salem	Maximum	42	25	46	35	25	12	5	6	7	− 8	−18	−11	− 8	11	11	15	8	15	11	16	19	13	34	35	12	− 6	3	9	−12	−15	−11	10.5
	Minimum	33	5	28	19	0	−12	− 3	−13	−13	−28	−34	−30	−20	−20	−10	− 1	0	− 4	4	8	1	−15	7	7	−15	−23	−24	−17	−27	−35	−34	− 8.6
Orange	Maximum	43	35	44	41	38	10	13	14	11	− 8	−20	− 8	− 3	9	12	12	10	14	15	19	17	20	34	36	31	− 2	− 4	5	− 9	−18	−12	12.9
	Minimum	26	21	19	23	9	− 3	− 9	− 8	− 9	−23	−31	−24	−25	−23	−11	3	3	− 6	− 8	6	0	− 9	17	19	− 6	−14	−22	−11	−23	−33	−30	− 5.9
Oriska	Maximum	....	32	31	26	....	11	8	6	6	0	− 8	− 8	− 8	6	16	16	16	16	14	....	16	− 6	16	36	..	21	8	0	− 8	− 8	− 4	[d] 9.3
	Minimum	....	2	14	12	....	− 8	−18	−21	− 6	−21	−28	−28	− 8	−12	− 6	− 8	− 6	− 6	− 6	....	− 6	−19	−12	....	−25	−27	−26	−18	−25	−30	−25	−[d]13.6
Park River	Maximum	....	....	29	28	13	4	− 5	0	2	0	−12	− 4	2	4	3	18	12	12	14	14	10	0	13	31	12	−18	1	0	− 7	−16	− 9	[b] 5.2
	Minimum	....	....	− 4	3	4	−10	−22	−16	−12	−21	−22	−20	−12	− 4	− 8	2	−10	0	4	10	2	−18	16	− 2	−21	−34	−26	−25	−30	−35	−29	−[b]13.0
Pembina §§	Maximum	0	−10	− 5	0	8	10	8	5	8	5	− 2	5	15	10	8	0	5	10	22	10	15	− 2	20	25	5	−15	− 2	5	−22	10	− 5	4.1
	Minimum	−18	−24	−22	−18	−16	−20	−16	−18	−12	−10	−12	−14	−12	−10	−14	−10	−12	−18	−12	− 5	−15	−18	− 5	− 5	−25	−36	−22	−10	−34	−38	−32	−16.9
Steele	Maximum	40	30	36	22	30	5	6	− 2	− 6	−12	−18	−10	−10	− 3	9	12	16	15	15	16	13	3	30	33	10	10	−10	−10	− 8	−15	−12	6.9
	Minimum	30	4	11	12	0	− 4	− 5	− 6	−12	−28	−30	−25	−20	−15	−16	− 3	− 5	9	2	3	0	− 8	20	10	−18	−28	−26	−28	−32	−35	−30	− 8.6
Towner	Maximum	38	35	28	24	20	10	0	0	4	−10	−13	−13	− 5	1	5	10	12	12	10	16	16	0	29	33	15	−17	3	3	−19	−14	− 8	7.2
	Minimum	18	−19	12	10	− 4	−15	−22	−20	−11	−26	−31	−28	−18	− 9	−20	0	0	2	0	5	− 5	−22	− 1	11	22	−34	−20	−20	−32	−35	−31	−12.5
Wahpeton §§	Maximum	38	20	30	26	18	16	2	5	8	− 5	−10	− 2	8	8	10	17	0	12	14	20	20	10	16	36	6	− 8	3	5	10	15	6	10.2
	Minimum	− 6	− 5	− 5	8	16	2	−19	−19	−16	−16	−27	−25	−17	−10	−14	− 8	− 7	− 6	− 5	− 4	5	−20	−21	6	−13	−25	−28	−22	−24	−34	−34	12.7
Washburn	Maximum	40	38	41	38	32	4	1	7	5	− 3	−20	−12	− 4	− 2	9	9	10	8	11	16	17	11	34	36	16	−10	− 1	− 1	−18	−25	−11	8.9
	Minimum	19	− 1	11	16	− 4	−14	− 7	−14	− 9	−25	−30	−27	−24	−18	−18	−16	− 4	− 6	6	9	1	−14	11	16	14	−24	−21	−18	−28	−34	−31	−10.1
Westhope	Maximum	41	11	23	26	15	8	0	6	6	−12	−12	−12	−15	− 2	8	10	14	0	17	15	5	1	30	..	−20	14	0	− 2	−28	−15	− 5	[a] 3.3
	Minimum	4	− 9	11	10	−11	−23	−21	−24	−16	−31	−33	−33	−21	−16	−21	−21	−21	−15	1	5	−16	−24	0	....	−30	−36	−17	−28	−34	−40	−35	−[a]18.2
Williston	Maximum	40	35	38	35	15	14	16	10	8	−19	−19	−16	−10	1	12	6	6	5	14	13	13	32	37	36	− 6	− 6	8	− 5	−18	−20	−12	8.6
	Minimum	24	22	21	14	6	6	5	− 9	−19	−28	−28	−31	−33	−24	− 4	2	− 4	− 9	1	3	− 1	−14	21	− 6	−18	−20	−14	−24	−27	−30	−32	8.1
Willow City	Maximum	35	26	26	23	11	4	− 3	4	2	−23	−10	−15	− 6	− 4	3	11	11	14	11	14	4	− 2	20	32	2	−14	0	−18	21	18	8	3.5
	Minimum	15	−10	11	9	4	−11	−25	−21	−16	−29	−33	−30	−17	−17	−25	− 1	− 2	3	− 1	4	− 8	−27	2	5	25	−37	−18	−21	−36	−40	−39	−14.1
Zap	Maximum	37	34	40	34	26	8	8	5	3	−12	−17	−10	− 3	− 3	11	8	5	9	14	17	15	10	31	35	12	−15	0	− 1	−16	−18	−11	8.3
	Minimum	19	8	14	12	2	−11	1	−17	−12	−31	−29	−33	−32	−27	−11	4	0	−10	7	0	0	−17	20	12	−16	−23	−24	−16	−26	−35	−37	9.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
G

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

FEBRUARY, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 28, 1918.

Do not risk having a Poor Corn Crop by using Untested Seed.

Departure of the Mean Temperature from the Normal, February, 1918.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., FEBRUARY, 1918. No. 2.

GENERAL SUMMARY.

Mild and pleasant weather prevailed throughout the State, and afforded great relief to all classes, particularly to stockmen. During the past twenty-seven years, since the Climatological Service was established in North Dakota, there have been but six Februarys with milder temperature. There was more than the usual sunshine, and no severe storms occurred. The precipitation was practically all in the form of snow, but was less than two-fifths of the normal. Livestock on the ranges and on farms were able to secure the greater portion of the rough feed needed, thus saving an immense quantity of hay, which was becoming very scarce. Owing to the mild weather which prevailed in the region of the upper tributaries to the Missouri River, a number of these streams broke up, and the gorging of ice caused local floods. No serious loss, however, occurred.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.06 inches. The highest was 31.11 inches at Bismarck on the 20th; the lowest was 29.35 inches at Grand Forks on the 23d.

TEMPERATURE.

The mean temperature for the State was 10.8°, or 2.9° above the normal, and 11.5° higher than the mean for February, 1917. The highest mean reported was 16.0° at Bierman, Slope County; the lowest was 3.4° at Langdon, Cavalier County. The highest temperature reported was 60° at Taylor, Stark County, on the 24; the lowest was -41° at Beach, Golden Valley County, on the 20th. The greatest monthly range of temperature was 94° at Taylor, Stark County; the least was 72° at Lisbon, Ransom County, and at Melville, Foster County. The greatest daily range was 83° at Granville, Towner County, on the 21st. The distribution of temperature was quite uniform throughout the Section.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 84 per cent, the average at 7 a. m. being 87 per cent, and at 7 p. m. 82 per cent.

PRECIPITATION.

The average precipitation for the State was 0.19 inch, or 0.30 inch below the normal, and 0.47 inch lower than the average for February, 1917. The greatest monthly amount reported was 0.65 inch at Walhalla, Pembina County; there was none at McClusky, Sheridan County, Maddock, Benson County, and Westhope, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 0.46 inch at Ellendale, Dickey County, on the 13th and 14th. The average number of days with 0.01 inch or more of precipitation was 3. The average depth of snowfall was 2.3 inches. Stormy periods were from the 2d to the 7th, inclusive, and from the 13th to the 19th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 11.3 miles. The greatest wind movement was 10,619 miles at Ellendale, an average of 15.8 miles per hour; the least was 5,970 miles at Moorhead, an average of 8.9 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 57 miles per hour from the northeast at Ellendale on the 14th.

SUNSHINE AND CLOUDINESS.

The sunshine was somewhat above the normal; the average number of clear days was 13, partly cloudy days 9, and cloudy days 6.

ERRATA, DECEMBER, 1917.

Page 92: Number of days with 0.01 inch or more precipitation at Hannah should be 5; mean temperature and departure at Minto should be −1.4° and −12.3°; total precipitation and departure at Minto should be 0.67 inch and +0.21 inch; minimum temperature and date at Mott should be −37° on the 13th; total snowfall at Napoleon should be 3.0 inches; mean temperature and departure at Westhope should be −3.4° and −13.4°; mean temperature at Zap should be 0.6°.

Page 94: Maximum temperature at Bismarck on the 5th should be 9°; minimum temperature at Grand Forks on the 21st should be 3°, and mean minimum −10.5°; mean maximum at Westhope should be 8.2°; mean maximum at Zap should be 10.4°.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	- 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	- 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.9	+6.0	62	−34	0.99	+0.50	5	12	7	10	nw.
1909...	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw.
1916...	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	- 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.

Climatological Data for February, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	
Amenia	Cass	954	22	9.0	+1.2	57	23	−25	20	51	0.05	−0.33	0.05	.....	1	11	11	6	nw.	E. T. Carley.
Ashley	McIntosh	2,001	21	13.2	+4.8	45	24	−32	21	41	0.40	−0.05	0.20	4.0	2	15	5	8	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	.....	.....	.....	.....	−41	20	.....	0.35	−0.22	0.13	3.0	4	17	7	4	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	14.0	+4.7	52	10	−32	21	57	0.14	−0.53	0.10	1.5	2	18	5	5	nw.	C. L. Hall.
Bierman	Slope	.....	2	16.0	.....	49	10	−35	20	35	0.64	.....	0.15	7.5	9	14	6	8	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	14.2	+5.9	54	10	−29	21	46	0.29	−0.21	0.16	4.5	6	11	9	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	4.9	+2.8	48	28	−35	1†	62	0.10	−0.31	0.03	.....	6	6	8	14	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	8.0	.....	42	10†	−35	21	64	0.40	.....	0.40	.....	1	20	0	8	.....	G. H. Phelps.
Bowman	Bowman	.....	4	14.2	.....	45	10	−37	20	46	0.21	.....	0.12	3.4	6	18	5	5	w.	W. H. Workman.
Buford	Williams	1,944	39	11.4	+0.7	46	5	−38	20	52	0.22	−0.27	0.08	.....	5	14	12	2	w.	P. Elmore.
Cando	Towner	1,488	17	7.6	+4.2	44	23	−35	20	43	T.	−0.22	T.	T.	0	.....	.....	.....	w.	E. T. Judd.
Carson	Grant	2,500	6	13.0	.....	45	10	−36	20	39	0.14	.....	0.10	1.4	2	16	9	3	nw.	J. W. Evens.
Colgate	Steele	1,177	4	11.8	.....	50	23	−28	20†	50	0.02	.....	0.02	0.2	1	12	9	7	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	T.	−0.35	T.	T.	0	17	11	0	nw.	S. Friswold.
Crosby	Divide	1,954	11	10.6	+2.8	55	11	−32	20	48	0.02	−0.23	0.02	0.2	1	13	7	8	sw.	B. Lancaster.
Devils Lake	Ramsey	1,478	14	8.6	+4.1	46	23	−30	20	44	0.14	−0.39	0.08	2.0	4	10	10	8	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	11.3	−0.6	43	10	−37	20	58	0.25	−0.24	0.20	2.6	2	17	3	8	w.	J. C. Thysell.
Donnybrook	Ward	1,760	19	11.7	+3.7	44	10	−32	20	45	T.	−0.65	T.	T.	0	10	15	3	w.	Geo. Michel.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Mellow.
Dunseith	Rolette	1,682	22	6.7	+3.0	44	10	−35	21	50	0.20	−0.25	0.05	3.0	6	15	5	8	ne.	J. G. Lamont.
Eckman	Bottineau	.....	13	10.4	+4.0	47	23	−36	21	52	0.13	−0.21	0.10	2.0	2	17	8	3	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	13.9	+3.0	48	10†	−31	21	43	0.11	−0.22	0.06	.....	2	5	16	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	13.0	.....	51	10	−35	21	49	0.50	.....	0.46	5.4	4	7	14	7	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.08	.....	0.06	.....	2	4	21	3	w.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.28	.....	0.16	4.0	3	16	8	4	w.	M. E. Uggen.
Fessenden	Wells	1,610	6	9.9	.....	48	23	−32	21	63	0.10	.....	0.10	1.0	1	22	3	3	sw.	G. T. Seymour.
Forman	Sargent	1,249	26	15.2	+5.5	50	24	−26	21	45	0.10	−0.33	0.10	1.0	1	14	9	5	nw.	A. Maltby.
Fullerton	Dickey	1,439	20	14.6	+5.3	51	23	−33	21	40	0.61	−0.12	0.45	6.1	3	7	14	7	nw.	F. O. Alin.
Garrison	McLean	1,901	23	11.6	+3.1	45	23†	−33	21	48	0.24	−0.40	0.12	2.0	3	13	11	4	nw.	G. L. Robinson.
Grafton	Walsh	827	26	3.6	−2.3	46[a]	23	−30	3†	58[a]	0.35	−0.19	0.15	2.7	4	11	5	12	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	8.4	+1.1	48	23	−28	20	49	0.27	−0.23	0.12	2.6	7	17	6	5	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	13.7	.....	48	23†	−30	21	52	0.05	.....	0.02	0.5	2	19	0	9	w.	G. H. Leick.
Granville	McHenry	1,504	11	13.4	+5.0	50	21	−33	21	83	T.	−0.23	T.	T.	0	9	10	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	4.9	+2.9	41	10	−38	3	40	0.40	−0.13	0.20	4.0	3	20	3	5	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	.....	.....	.....	.....	−35	21	.....	0.02	.....	0.02	0.2	1	13	11	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	14.8	+0.4	54	12	−35	20	49	0.02	−0.32	0.02	.....	1	26	1	1	nw.	U. J. Downey.
Hillsboro	Traill	901	12	11.0	+2.5	49	23	−26	20	48	0.25	−0.45	0.10	2.5	3	5	23	0	nw.	F. E. Mayall.
Howard	Williams	2,275	11	9.0	+1.9	37	9	−39	20	53	T.	−0.72	T.	T.	0	15	8	5	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	7.8	−0.4	49	23†	−32	4	71	0.10	−0.50	0.08	1.0	2	12	2	14	n.	S. Calvelage.
Lakota	Nelson	1,579	17	6.3	+1.3	44	23	−36	19	47	0.16	−0.38	0.04	4.0	5	14	8	6	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	9.4	+1.7	47	23	−35	21	50	0.10	−0.23	0.05	1.0	2	16	6	6	w.	E. V. Virgin.
Langdon	Cavalier	1,615	22	3.4	−0.5	41	23	−38	20	59	0.20	−0.62	0.20	2.0	1	15	1	12	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	9.6	+3.9	48	23	−30	20	51	0.22	−0.11	0.05	2.2	5	9	4	15	n.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	0.27	.....	0.15	.....	5	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	13.6	+4.0	46	10	−26	20	40	0.20	−0.61	0.20	2.0	1	14	9	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	.....	.....	.....	.....	R. M. Rishworth.
McHenry	Foster	1,509	8	8.5	.....	47	23	−33	20	47	T.	.....	T.	T.	0	22	2	4	w.	P. E. Trudeau.
McKinney	Renville	1,640	24	10.8	+6.1	50	24	−30	21	40	T.	−0.31	T.	T.	0	6	19	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	14.4[b]	.....	52[c]	24	−28	22	64[c]	0.20	.....	0.10	2.0	2	16	1	11	w.	R. D. Markland.
Maddock	Benson	1,604	3	12.1	.....	46	23	−32	20†	47	0.00	.....	0.00	0	0	4	15	9	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	12.6	.....	50	10	−32	21	63	0.11	.....	0.05	.....	3	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	11.8	+4.5	46	23	−30	20†	50	0.12	−0.31	0.04	1.4	5	13	6	9	sw.	P. B. Anderson.
Marmarth	Slope	.....	9	12.5[a]	.....	45[a]	10	−38[c]	20	44[a]	0.56	.....	0.40	6.5	4	11	11	6	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	22	12.6	+4.2	50	23	−27	3†	46	0.06	−0.34	0.02	.....	4	19	5	4	nw	W. C. Gould.
Melville	Foster	1,590	20	12.9[d]	+5.7	42	23	−30	3	42	0.05	−0.30	0.05	0.5	1	.....	.....	.....	sw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	14	7	7	s.	Hj. Edman.
Minot	Ward	1,557	22	9.4	+1.1	48	10†	−33	21	65	0.18	−0.32	0.15	1.8	2	10	9	9	nw.	W. I. Faris.
Minto	Walsh	820	25	7.8	+1.9	47	23	−30	4	47	0.21	−0.35	0.17	.....	4	16	2	10	n.	C. M. Evans.
Mott	Hettinger	2,424	11	10.6	−2.3	47	26	−37	19	46	0.62	+0.10	0.38	6.5	4	14	6	8	w.	O. H. Opland.
Napoleon	Logan	1,955	26	9.9	+3.1	46	24	−32	20	51	0.15	−0.30	0.10	3.0	2	12	4	12	w.	C. J. Hoof.
New England	Hettinger	2,400	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,163	13	12.8	+1.5	47	10	−35	20	44	0.49	+0.14	0.20	5.1	4	19	5	4	sw.	J. Christiansen.
Orange ††	Adams	2,586	9	14.4	.....	55	10	−34	20	45	0.60	.....	0.40	6.0	2	6	16	6	nw.	T. F. Young.
Park River	Walsh	998	14	6.0	+0.3	46	23†	−30	20	41	T.	−0.41	T.	T.	0	16	7	5	nw.	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	17	7	4	w.	J. A. Johnson.
Pembina	Pembina	789	44	3.6	+1.8	42	10	−34	4	45	0.62	−0.13	0.20	5.5	10	8	18	2	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.05	.....	0.05	0.5	1	8	14	6	nw.	C. Frank.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	11.6	+4.8	47	24	−32	21	54	0.52	+0.05	0.26	4.6	2	14	12	2	sw.	H. S. Wood.
Taylor	Stark	2,493	2	13.9[e]	.....	60[d]	24	−34[f]	20	71[g]	0.19	.....	0.08	.....	3	.....	.....	.....	nw.	H. Leutz.
Towner	McHenry	1,482	16	11.9	+6.2	47	23	−31	4†	44	T.	−0.41	T.	T.	0	20	2	6	w.	B. Bagley.
Wahpeton	Richland	962	24	12.0	+1.6	53	25	−27	4	57	0.10	−0.45	0.04	.....	4	9	8	11	se.	F. E. Smith.
Walhalla	Pembina	966	11	6.6	+2.8	47	23	−35	20	47	0.65	+0.16	0.20	6.5	4	6	16	6	nw.	Ivan Lee.
Washburn	McLean	1,734	19	15.4	+5.3	48	10	−30	20	54	0.02	−0.37	0.02	.....	1	.....	.....	.....	nw.	J. T. McCulloch.
Westhope	Bottineau	1,508	12	7.8	+3.9	45	23	−34	3†	59	0.00	−0.23	0.00	0	0	12	15	1	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	11.2	+3.3	45	23	−33	20	44	0.13	−0.34	0.10	1.3	4	8	13	7	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	6.0	+2.6	43	23	−37	21	49	0.15	−0.25	0.10	1.5	2	10	13	5	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	9.7	.....	43	7	−36	20	45	0.06	.....	0.04	1.6	3	9	12	7	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	12.0	+5.0	52	23	−23	20	48	0.35	−0.38	0.11	3.5	6	18	2	8	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	10.8	+2.9	60	24	−41	20	83	0.19	−0.30	0.46	2.3	3	13	9	6	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for February, 1918.

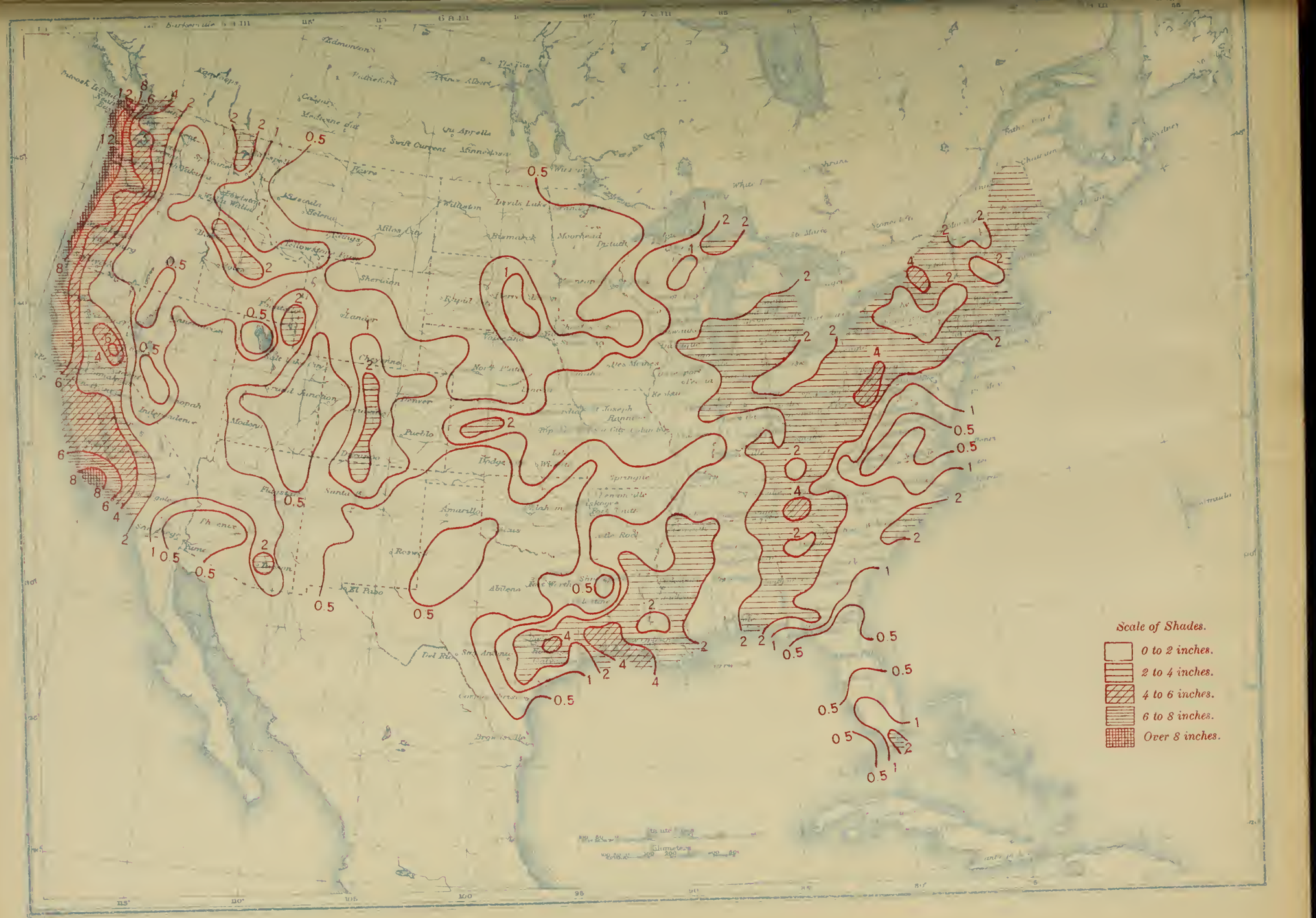
Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red							.05							T.		T.		T.							T.			T.				0.05
Ashley	Missouri							*							.20				.20														0.40
Beach	Lit. Missouri		.13													.08			.08	.06						T.							0.35
Berthold Agency	Missouri													T.		.04			.10						T.								0.14
Bierman	Lit. Missouri	.05	.15										.05		.07	.10	.03		.05	.12						.02							0.64
Bismarck ***	Missouri		T.		T			T.						.10	.06	.04	.01	T.	.05						.03	T.		T.					0.29
Bottineau ‖ ‖	Mouse			.01		.02		.01	T.					T.			.03			.02						.01							0.10
Bowbells ‖ ‖	Mouse																									.40							0.40
Bowman	Grand				T.								T.	*	.12	.03			*	.04						.02							0.21
Buford	Missouri		.03									T.		T.		.02			.06	.08					.03								0.22
Candо	Sheyenne															T.																	T.
Carson	Heart														.10				.04														0.14
Colgate	Sheyenne		T.		T.		T.	T.	T.					T.		.02		T.	T.									T.					0.02
Cooperstown	Sheyenne		T.				T.	T.																		T.		T.					T.
Crosby	Mouse																								.02								0.02
Devils Lake ***	Sheyenne		.01		T.		T.	.08	T.					T.		.01			.04	T.						T.			T.				0.04
Dickinson ‖ ‖	Heart			.05										T.		.20		T.		T.						T.							0.25
Donnybrook	Mouse				T.			T.						T.				T.		T.													T.
Dunn Center	Knife																																
Dunseith	Mouse		T.		.05		*	.07						.02					.05						T.	T.							0.20
Eckman	Mouse				.10								T.			T.			.03	T.						T.			T.				0.13
Edgeley	James							T.							.05				.06									T.					0.11
Ellendale	James		T.			T.		T.	T.					.05	.41	T.	.01		.03							T.		T.					0.50
Energy	Missouri		T.		T.									T.	T.				.06	.02					T.								0.08
Epping	Missouri							.08											.16	.04					T.								0.28
Fessenden ‖ ‖	James			T.		T.		T.									T.		T.	.10						T.		T.					0.10
Forman	Sheyenne														.10				T.														0.10
Fullerton	James			T.		T.		T.						T.	.45		T.		.10	T.						.06							0.61
Garrison	Missouri				T.										.07	.05		.12										T.					0.24
Grafton ‖ ‖	Red					.15			.06								.04									.10							0.35
Grand Forks	Red	T.	.02	.01	.12									T.		.01			.06						.01		.04						0.27
Grand Rapids	James		T.					T.							.02		T.		.03														0.05
Granville	Mouse		T.		T.											T.										T.							T.
Hannah	Pembina							.10					.10						T.						.20								0.40
Hansboro	Red												.02																				0.02
Hettinger	Grand																.02																0.02
Hillsboro	Red		.10			.05													.10														0.25
Howard	Missouri				T.			T.								T.									T.			T.					T.
Jamestown ‖ ‖	James		T.					T.								.02											.08						0.10
Lakota	Sheyenne		.04			.04		.02					.02			.04				T.													0.16
Lamoine	Missouri		T.		T.														T.	.05						.05							0.10
Langdon ‖	Pembina					.20																											0.20
Larimore ‖	Red	T.				.05			.05					T.			.02			.05						.05							0.22
Linton	Missouri			T.				T.						.15	.05	T.	T.	.01								.05	.01						0.27
Lisbon ‖	Sheyenne														.20	T.										T.							0.20
McClusky	Missouri																																
McHenry	James				T.			T.					T.	T.		T.			T.														T.
McKinney	Mouse				T.		T.									T.																	T.
McLeod	Sheyenne							.10	T.					T.	.10		T.		T.			T.						T.					0.20
Maddock	Sheyenne																																
Mandan ‖ ‖	Missouri			T.											.05		.04		T.	.02						T.							0.11
Manfred	Sheyenne				.04		T.	.02	T.							T.	.02		.02							.02		T.					0.12
Marmarth	Lit. Missouri		T.											T.	.40	.04			.10	T.					T.	.02							0.56
Marstonmoor	James																																
Mayville	Red		.01															.01		.02							.02						0.06
Melville	James				T.			.05																	T.								0.05
Milnor	Red													T.	.20				T.														0.20
Minot ‖	Mouse					.03														.15													0.18
Minto	Red		T.			.17		.01					.02												.01									0.21
Mott	Cannon Ball		.06												.04	.38			.14														0.62
Napoleon ‖	Missouri														.10											.09							0.15
New England	Cannon Ball																																
New Salem	Heart				T.							T.		.20	.08	.01			.20							T.							0.49
Orange	Cannon Ball														.40	.20																	0.60
Park River	Red					T		T.											T.														T.
Parshall	Missouri													T.														T.					T.
Pembina ‖	Red						.05				.01	.01	.01		.20					.10					.01	.02	.20		.01				0.62
Powers Lake	Missouri															T.				.05													0.05
Sanish	Missouri																																
Searing	Lit. Missouri																																
Steele	Missouri												T.		.26				.26	T.					T.		T.						0.52
Taylor	Heart											T.			.08	.08				.03													0.19
Towner	Mouse																		T.														T.
Wahpeton ‖	Red														.04	.02				.02						.02							0.10
Walhalla	Pembina				T.			.20											.20						15				.10				0.65
Washburn	Missouri																		.02														0.02
Westhope	Mouse																																
Williston ***	Missouri																																
Willow City	Mouse		T.		.05		T.	.10	T.					T.		T.			T.							T.							0.15
Zap	Knife														.04	.01			.01														0.06
Moorhead, Minn ***	Red		.02					.11							.06		.02		.09							.05			T.				0.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	21	8	3	23	40	36	23	32	40	44	40	37	19	17	16	18	21	10	5	3	10	27	57	47	25	47	21	43				25.2
	Minimum	23	12	23	22	4	8	8	1	7	14	17	18	17	1	10	9	9	2	16	25	24	24	8	19	9	8	17	9				7.2
Ashley	Maximum	13	15	3	2	39	32	27	26	39	42	40	33	30	33	18	9	12	10	1	10	2	33	43	45	38	40	37	38				24.6
	Minimum	23	5	20	26	0	18	10	12	10	27	17	18	13	13	3	9	15	2	18	28	32	8	17	26	11	16	17	12				1.9
Beach	Maximum																																
	Minimum	19	3	2	6	10	22	25	23	15	20	15	17	6	9	13	27	16	12	23	41	31	22	19	22	15	5	15	5				0.4
Berthold Agency	Maximum	15	11	1	15	41	38	45	35	46	52	39	38	34	18	8	9	13	11	2	8	6	45	50	46	35	39	35	41				27.0
	Minimum	18	4	25	29	11	11	20	15	19	25	26	16	11	10	5	23	18	6	23	31	32	12	30	25	3	23	18	13				1.1
Bismarck	Maximum	16	10	6	11	43	20	44	28	45	54	42	41	31	6	3	6	15	12	5	15	8	42	49	49	27	40	28	43				24.9
	Minimum	16	6	19	26	10	19	16	18	22	33	29	21	6	4	5	15	12	9	18	28	29	4	20	22	7	25	20	16				3.4
Bottineau §§	Maximum	12	3	14	24	35	21	25	20	43	40	35	33	12	6	2	7	10	6	7	14	0	34	41	37	21	34	17	48				18.5
	Minimum	35	4	33	28	24	12	3	5	3	11	20	12	6	16	16	15	20	15	26	35	35	28	7	18	4	4	9	8				8.7
Bowbells §§	Maximum	18	0	5	36	35	36	33	32	40	42	29	33	15	5	2	8	2	0	3	21	12	30	42	34	27	22	35	45				21.1
	Minimum	30	5	30	28	10	8	6	5	5	29	27	15	5	17	18	13	17	10	26	30	35	21	13	22	5	5	7	18				5.0
Cando	Maximum	15	1	5	0	35	29	21	26	39	39	39	34	33	0	2	10	13	8	11	8	5	34	44	41	31	35	33	40				20.8
	Minimum	16	8	34	34	1	6	5	6	6	19	22	18	0	15	16	12	18	26	31	35	35	9	19	21	1	11	9	6				5.5
Carson	Maximum	15	15	5	10	36	40	36	30	37	45	40	36	30	15	0	0	5	8	9	5	8	35	42	42	33	37	30	40				24.1
	Minimum	25	4	15	16	6	20	19	16	17	30	27	18	15	10	11	19	16	8	22	36	31	3	22	26	2	23	17	13				2.0
Crosby	Maximum	13	5	3	26	40	33	42	25	40	36	55	46	15	5	8	2	13	7	11	13	2	33	46	34	25	33	25	36				21.9
	Minimum	14	2	25	22	22	13	15	7	23	28	21	15	4	11	5	14	15	20	24	32	28	9	19	11	3	18	11	9				0.6
Devils Lake	Maximum	13	0	10	5	35	27	26	21	38	41	37	36	31	0	1	10	12	7	4	12	2	35	46	43	19	37	23	39				19.9
	Minimum	15	19	27	28	5	4	5	7	15	27	20	19	6	12	8	9	10	14	23	30	27	9	20	16	2	19	10	8				2.8
Dickinson	Maximum	8	21	5	34	39	38	38	30	39	43	36	35	28	3	1	6	7	1	1	14	10	36	41	38	26	35	31	36				22.9
	Minimum	32	20	10	15	15	17	25	18	18	29	27	18	15	8	8	24	12	1	22	37	32	22	10	25	2	22	13	10				0.3
Donnybrook	Maximum	12	5	1	18	36	34	38	27	41	44	40	34	31	8	5	7	9	8	5	9	2	34	43	40	31	34	32	38				23.1
	Minimum	12	7	25	27	16	12	10	9	16	32	27	15	6	16	7	11	14	9	22	32	29	10	21	27	2	17	12	11				0.3
Dunseith	Maximum	10	1	8	0	37	32	19	22	41	44	39	31	27	1	1	6	7	5	7	14	3	33	42	41	23	34	31	37				18.9
	Minimum	21	10	30	27	1	4	5	9	7	23	28	14	2	20	10	18	18	17	24	32	35	17	14	19	5	7	5	8				5.5
Edgeley	Maximum	16	11	1	3	42	36	26	28	43	48	42	38	33	16	5	10	16	14	0	8	6	38	48	47	39	41	35	43				25.6
	Minimum	19	3	21	20	0	20	5	12	12	33	28	29	15	1	16	14	14	1	18	29	31	5	23	28	9	15	12	12				2.2
Ellendale	Maximum	16	13	6	8	43	33	28	29	43	51	42	40	32	10	6	8	16	13	2	11	6	39	50	49	33	41	29	42				25.0
	Minimum	25	7	18	23	8	10	9	10	9	33	28	20	10	4	14	9	16	6	16	26	35	10	19	26	12	18	14	10				1.0
Fessenden §§	Maximum	15	4	6	28	38	19	32	27	41	44	40	38	19	14	4	13	15	0	5	10	10	38	48	46	29	38	22	41				23.3
	Minimum	31	6	28	29	25	15	3	7	8	25	29	19	14	11	10	12	14	3	25	30	32	25	10	25	3	5	13	7				3.5
Forman	Maximum	16	16	8	6	38	37	23	29	40	47	40	36	35	21	7	10	17	16	4	0	8	36	48	50	46	41	40	43				27.1
	Minimum	21	4	19	23	5	16	5	13	8	28	28	25	20	0	10	5	9	4	13	23	26	9	18	27	10	15	20	9				3.2
Fullerton	Maximum	16	12	2	5	42	32	28	29	43	49	42	38	32	17	8	10	18	15	2	4	7	32	51	48	38	41	30	42				26.0
	Minimum	23	3	19	20	5	19	8	15	10	31	29	20	17	3	13	7	15	2	16	27	33	7	15	18	10	18	20	19				3.1
Garrison	Maximum	17	8	0	7	35	38	40	35	40	40	42	38	31	10	5	10	15	9	5	12	5	38	45	45	35	37	28	39				24.1
	Minimum	21	5	24	30	7	13	13	13	16	23	23	16	7	11	8	20	20	7	25	32	33	10	19	24	1	19	16	13				0.8
Grafton §§	Maximum	16	3	8	2	6	5	22	28	40	44	38	37	7	2	5	1	14	3	4	6	7	37	46	37	27	37	19					[a]16.6
	Minimum	28	10	30	30	28	24	15	0	2	15	18	3	2	17	16	13	12	11	21	29	28	21	6	27	1	5	5	3				9.4
Grand Forks	Maximum	14	2	8	3	32	20	19	22	40	43	36	39	27	2	3	10	15	12	5	6	7	37	48	39	23	38	28	37				20.6
	Minimum	18	16	26	27	3	6	6	7	3	16	10	8	3	10	11	8	8	9	14	28	25	12	18	23	6	11	9	8				3.8
Granville	Maximum	15	7	4	10	38	24	38	35	40	46	40	38	30	15	5	10	15	10	4	10	50	38	48	48	28	37	28	40				25.8
	Minimum	15	4	25	25	10	10	10	18	20	32	30	22	15	12	5	10	15	12	23	30	33	14	20	26	0	20	12	10				1.1
Hannah	Maximum	10	1	5	3	31	21	24	26	37	41	37	35	25	0	10	9	2	0	10	6	10	19	40	32	28	27	28	36				18.0
	Minimum	25	15	38	35	6	4	15	6	3	10	28	10	0	12	14	17	20	21	33	35	30	14	13	22	4	0	2	10				8.2
Hansboro	Maximum	10	7	7	0	33	35	20	25	36																							
	Minimum	27	13	32	29	10	1	10	10	6	22	20	6	6	22	16	16	20	14	28	33	35		11	4	2	2	2					[b]9.8
Hettinger	Maximum	12	28	18	15	41	42	41	36	44	40	40	54	38	26	3	3	6	7	4	12	12	41	42	41	25	41	33	43				26.2
	Minimum	24	4	5	6	15	22	24	18	24	32	28	34	22	8	12	26	18	18	26	35	28	8	18	20	3	17	13	18				3.5
Howard	Maximum	9	5	3	31	35	26	36	30	37	36	33	30	28	9	6	2	9	9	10	9	10	30	36	35	24	33	23	32				19.7
	Minimum	24	3	25	22	22	11	9	9	21	30	20	10	4	10	6	16	20	10	22	39	33	12	15	10	8	14	5	6				1.7
Jamestown §§	Maximum	15	7	7	9	40	37	25	26	43	45	40	38	25	11	6	11	18	6	2	11	3	39	49	49	30	39	21	40				23.4
	Minimum	30	15	29	32	31	1	7	3	2	20	17	15	11	12	20	18	22	10	30	31	30	29	0	24	7	7	21	10				7.9
Lakota	Maximum	12	18	6	11	0	34	20	23	37	38	35	34	33	4	4	9	15	10	5	9	2	34	44	40	21	25	29	36				18.8
	Minimum	23	9	32	27	34	2	8	8	4	28	21	18	2	10	10	11	16	13	36	35	21	13	21	20	1	9	8	10				6.2
Lamoine	Maximum	11	7	3	4	36	34	31	31	38	41	40	37	31	8	4	8	12	8	7	13	2	35	47	42	35	35	36	36				22.2
	Minimum	25	5	28	32	4	10	3	10	5	26	26	14	8	12	10	18	17	9	24	34	35	15	17	27	2	8	8	6				3.5
Langdon	Maximum	11	4	0	15	29	20	15	23	36	37	36	36	6	5	10	20	13	8	5	10	6	31	41	30	25	34	20	34				18.9
	Minimum	40	22	35	34	30	1	10	3	0	17	28	5	0	20	21	30	10	10	29	38	33	28	10	18	5	1	0	4				12.2
Larimore §§	Maximum	15	0	8	11	35	14	20	28	38	42	36	36	10	5	39	15	15	2	4	7	5	36	48	40	28	38	25	39				20.8
	Minimum	20	9	29	27	5	10	6	6	7	21	30	8	5	11	12	11	8	4	20	30	28	8	22	28	5	9	10	8				2.1
Lisbon §§	Maximum	12	10	18	16	19	22	26	32	34	46	41	36	30	18	12	11	16	10	8	14	26	36	40	24	28	32	36	34				24.5
	Minimum	18	12	14	2	0	6	10	12	23	26	28	26	18	0	10	14	12	19	25	26	12	6	18	24	0	12	10	16				2.7
McHenry	Maximum	15	4	17	9	37	17	21	32	39	40	37	32	24	11	4	11	18	13	6	8	4	34	47	42	17	37	19	40				20.5
	Minimum	22	28	25	30	0	2	5	12	7	29	24	24	0	8	11	8	11	8	10	33	32	13	17	7	2	7	13	5				3.5
McKinney	Maximum	8	8	5	10	35	32	15	21	40	47	44	34	32	5	2	2	7	5	7	15	2	30	46	50	40	32	36	34				20.9
	Minimum	14	5	27	28	10	13	10	10	20	30	32	20	5	14	6	0	17	7	22	29	30	6	20	18	0	18	12	9				0.8
Maddock	Maximum	14	7	3	4	35	32	25	30	39	43	42	37	35	6	4	9	13	11	4	12	0	35	46	43	42	36	35	40				27.0
	Minimum	19	6	30	28	21	6	1	9	8	29	28	21	5	12	7	12	15	8	24	32	32	12	17	28	2	10	12	1				2.8
Marmarth	Maximum	17	23	4	29	39	33	32	40	45	35		35	34	18	3	2	12	2	7	15	8	37	40	38	25	35	29	34				[a]22.1
	Minimum	24	4	13	4	19	25	15	24	32	32		20	18	10	18	25	15	7	21	38	26	7	20	22	1	22	9	10				[a] 2.0
Minot §§	Maximum	17	5	5	35	41	23	41	31	44	48	40	39	23	3	5	12	11	3	6	10	10	37	48	45	30	38	27	42				23.8
	Minimum	30	5	26	31	24	17	8	10	10	26	28	12	15	14	16	16	16	15	26	32	33	25	5	23	1	1	11	7				5.0
Mott	Maximum	16	20	2	11	40	38	42	38	44	41	43	22	13	2	3	2	0	10	16	4	10	35	43	38	44	47	46	40				22.7
	Minimum	22	7	18	17	15	14	14	12	18	14	6	2	10	14	15	28	19	22	37	31	22	11	22	19	25	23	27	24				1.5
Napoleon §§	Maximum	15	10	5	20	38	18	30	25	40	45	40	35	25	10	5	5	5	1	5	15	0	36	43	46	30	38	25	40				21.4
	Minimum	30	5	24	31	0	15	8	8	9	23	24	15	10	5	15	13	17	10	15	32	25	15	15	24	10	7	13	12				1.6
New Salem	Maximum	17	16	4	11	40	40	42	33	41	47	39	39	32	12	3	5	8	9	7	9	9	39	42	46	42	38	30	43				25.0
	Minimum	24	4	31	24	4	14	16	15	17	30	29	17	12	12	11	18	19	7	18	35	32	5	18	26	15	18	13	15				0.6
Orange	Maximum	20	25	8	10	40	43	42	36	42	55	46	39	35	23	1	1	5	8	3	13	10	39	42	44	37	39	34	41				26.7
	Minimum	23	3	10	18	8	21	24	18	20	29	28	15	17	7	16	28	18	6	18	34	30	6	20	19	4	23	14	12				2.2
Park River	Maximum	14	4	6	3	32	31	16	23	37	42	42	37	35	4	2	7	12	14	3	9	4	34	46	46	34	37	36	38				14.9
	Minimum	16	10	28	26	4	6	7	9	4	18	22	5	2	15	10	11	9	7	19	30	25	7	23	28	4	8	7	5				3.0
Pembina §§	Maximum	15	10	8	6	20	12	15	20	40	42	22	32	5	0	10	12	10	2	12	14	2	35	40	18	15	34	18	35				14.3
	Minimum	15	30	32	34	15	5	2	5	10	12	32	5	0	20	12	10	10	12	25	32	24	10	12	10	5	5	2	2				7.2
Steele	Maximum	12	8	2	15	44	30	40	42	40	42	41	37	24	10	7	5	10	2	5	10	12	36	44	47	44	37	28	40				22.8
	Minimum	2	2	20	28	10	15	14	12	28	26	24	12	10	7	15	20	15	12	20	31	32	15	20	18	18	12	18	15				0.5
Towner	Maximum	15	10	5	4	35	33	34	33	40	43	41	33	35	6	4	13	11	11	5	11	33	36	47	43	33	38	35	42				24.7
	Minimum	19	5	30	31	3	10	4	10	8	18	27	20	6	14	6	11	15	11	25	31	11	0	18	27	0	14	13	13				0.9
Wahpeton §§	Maximum	6	5	16	5	12	32	20	20	23	42	40	35	27	24	10	12	20	20	2	3	11	38	46	53	29	44	25	40				24.6
	Minimum	23	10	20	27	25	12	4	10	5	15	27	22	24	10	11	9	11	0	14	25	24	18	2	29	10	10	19	11				0.7
Washburn	Maximum	19	9	1	40	40	35	41	37	42	48	47	45	35	20	22	18	12	12	8	12	5	39	47	47	42	40	35	43				28.6
	Minimum	8	1	21	12	14	14	14	14	17	32	29	18	18	9	5	12	16	18	22	24	30	6	22	27	5	10	12	12				2.2
Westhope	Maximum	15	6	5	8	37	30	31	31	40	40	37	35	34	6	7	13	9	9	15	10	3	37	45	37	29	36	40	42				21.8
	Minimum	17	30	34	33	5	5	0	0	23	25	27	23	0	18	10	16	16	10	25	33	34	12	14	11	2	16	8	12				6.1
Williston	Maximum	14	10	4	26	37	30	41	28	42	44	35	32	22	2	8	2	10	6	15	17	3	36	45	38	27	34	27	37				21.2
	Minimum	6	4	22	18	25	14	18	15	24	31	21	18	2	7	5	13	15	19	27	33	29	6	21	7	3	21	9	14				1.1
Willow City	Maximum	12	0	10	5	32	11	27	16	38	41	35	34	5	3	2	8	8	4	6	14	2	34	43	36	25	34	16	37				16.8
	Minimum	19	10	36	31	4	5	5	9	3	19	28	17	3	15	8	17	18	6	28	33	37	15	13	23	5	6	9	11				4.8
Zap	Maximum	13	5	5	10	36	30	43	35	40	42	36	36	28	10	1	2	6	6	9	15	1	35	40	41	32	38	28	35				21.3
	Minimum	21	5	25	28	8	12	17	17	17	28	24	12	10	12	9	25	21	9	26	36	35	10	12	22	1	10	12	8				1.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MARCH, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 30, 1918.

Departure of the Mean Temperature from the Normal, March, 1918.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

M G.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., MARCH, 1918. No. 3.

GENERAL SUMMARY.

Decidedly mild and dry weather prevailed throughout the entire State during the month. The temperature was the highest with but one exception (1910) in the climatological history of the State. In many respects the weather of the month was similar to that of March, 1910. The precipitation was below the normal, but ample for all needs. Spring work progressed almost without interruption. Much spring wheat and spring rye were seeded, and spring plowing was well advanced at the close of the month. Grass on the ranges afforded considerable feed for livestock. A few adverse reports of winter rye were received, but as a rule this crop received sufficient covering of snow to protect it from winter-killing. The acreage of winter rye is unprecedented in the history of that crop in North Dakota. The ice in the Missouri River broke during the month, and while it caused considerable uneasiness for several days, no damage of consequence occurred.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.00 inches. The highest was 30.70 inches at Ellendale on the 15th; the lowest was 29.34 inches at Devils Lake on the 30th.

TEMPERATURE.

The mean temperature for the State was 35.0°, or 12.4° above the normal, and 12.8° higher than the mean for March, 1917. The highest mean reported was 39.0° at Hettinger, Adams County; the lowest was 30.6° at Langdon, Cavalier County. The highest temperature reported was 82° at Colgate, Steele County, on the 30th; the lowest was −15° at Marmarth, Slope County, on the 6th. The greatest daily range of temperature was 54° at Napoleon, Logan County, on the 30th. The greatest monthly range of temperature was 87° at Colgate, Steele County, Dickinson, Stark County, Ellendale, Dickey County, and Marmarth, Slope County; the least was 67° at McLeod, Ransom County. The distribution of temperature geographically was quite uniform. The first decade was the coldest, and the last the warmest.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 73 per cent, the average at 7 a. m. being 81 per cent, and at 7 p. m. 65 per cent.

PRECIPITATION.

The average precipitation for the State was 0.39 inch, or 0.44 inch below the normal, and exactly the same as for March, 1917. The greatest monthly amount reported was 1.20 inches at Melville, Foster County; there was none at Cando, Towner County, Parshall, Mountrail County, and at Towner, McHenry County. The greatest amount recorded in any twenty-four consecutive hours was 0.75 inch at Westhope, Bottineau County, on the 28th. The greater portion of precipitation occurred in the form of snow, the average fall for the Section being 2.9 inches. The distribution of precipitation was fairly uniform geographically, but not throughout the month. Stormy periods were from the 4th to the 13th, inclusive, and from the 28th to 30th, inclusive. The average number of days with 0.01 inch or more of precipitation was 2.

WIND.

The prevailing direction of the wind was southwest. The average hourly velocity, determined from the records of five stations, was 11.5 miles. The greatest wind movement was 11,679 miles at Ellendale, an average of 15.7 miles per hour; the least was 6,641 miles at Williston, an average of 8.9 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 50 miles per hour from the northwest at Bismarck on the 30th.

SUNSHINE AND CLOUDINESS.

There was more than the usual sunshine; the average number of clear days was 16, partly cloudy days 8, and cloudy days 7.

ERRATA.

Precipitation data for Hettinger as published for January and February, 1918, are incomplete and should not be considered.

Page 4: Total snowfall at Bismarck should be 10.3; maximum temperature and date at Buford should be 46 on 3d; date of highest temperature at Fessenden should be 1st; mean temperature at McLeod should be 1.8; date of highest temperature at Pembina should be 24th; mean temperature at Sanish should be 1.5; mean temperature and departure at Williston should be 0.3 and −6.2. Page 6: Maximum temperature at Williston on the 31st should be −8 and mean maximum 8.7.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893...	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894...	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895...	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896...	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897...	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898...	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899...	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900...	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901...	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902...	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903...	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904...	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905...	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906...	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907...	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908...	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909...	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910...	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911...	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912...	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913...	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914...	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915...	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916...	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918...	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.

Climatological Data for March, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	34.4	+10.9	76	30	− 8	7	53	0.06	−0.58	0.03	.....	2	15	9	7	s.	E. T. Carley.
Ashley	McIntosh	2,001	21	35.4	+13.4	74	30	− 8	6	37	0.90	−0.35	0.40	9.0	3	21	6	4	w.	R. C. Miles.
Beach	Golden Valley	2,576	12	.....	.....	75[k]	25	− 4	8	43[p]	T.	−0.78	T.	T.	0	29	1	1	nw.	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	24	37.1[b]	+12.1	75	25	− 7[b]	6	47[b]	0.18	−0.78	0.09	1.5	4	22	4	5	se.	C. L. Hall.
Bierman	Slope	.....	2	37.6	.....	73	25	−11	6	34	0.80	.....	0.60	6.5	4	17	3	11	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	36.5	+14.4	73	30	− 8	6	39	0.85	−0.19	0.42	8.4	4	14	4	13	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	33.0	+15.3	75	25	− 6	5	44	0.03	−0.93	0.03	0	1	11	9	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	31.6	.....	66	24†	− 8	5†	42	0.16	.....	0.16	0	1	26	0	5	.....	G. H. Phelps.
Bowman	Bowman	.....	4	36.0	.....	74	25	−12	6	48	0.85	.....	0.35	8.4	6	15	12	4	nw.	W. H. Workman.
Buford	Williams	1,944	39	34.8	+11.2	75	25†	− 5	6	45	0.11	−0.44	0.11	.....	1	17	13	1	w.	P. Elmore.
Cando	Towner	1,488	17	33.4[e]	+12.9	68[e]	30	− 5[e]	5†	38[e]	0.00	−0.71	0.00	0	0	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	34.8	.....	72	30	−14	6	40	0.89	.....	0.60	7.7	5	19	10	2	s.	J. W. Evens.
Colgate	Steele	1,177	4	36.6	.....	82	30	− 5	6	53	0.05	.....	0.03	0.5	2	15	10	6	w.	S. N. Grimwood.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	T.	−0.71	T.	T.	0	23	7	1	nw.	S. Friswold.
Crosby	Divide	1,954	11	36.2	+14.4	74	25	− 4	5	39	0.49	−0.23	0.30	3.5	3	16	7	8	s.	B. Lancaster.
Devils Lake	Ramsey	1,478	14	34.2	+15.7	67	30	− 5	6	33	0.22	−0.79	0.21	T.	2	7	10	14	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	35.6	+10.9	75	25	−12	6	46	0.31	−0.59	0.27	3.5	3	16	4	11	w.	J. C. Thysell.
Donnybrook	Ward	1,760	19	37.0	+13.7	70	24	− 6	5	44	0.10	−0.79	0.10	T.	1	9	14	8	w.	Geo. Michel.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Mellow.
Dunseith	Rolette	1,682	22	32.3	+13.5	66	29	− 9	5	41	0.20	−0.78	0.20	T.	1	10	13	8	sw.	J. G. Lamont.
Eckman	Bottineau	.....	13	34.7	+12.6	71	30	− 6	6	41	0.50	+0.01	0.50	T.	1	19	8	4	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	35.5	+9.0	76	30	−11	6	41	0.10	−0.82	0.05	.....	2	8	14	9	sw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	34.9	.....	75	30	− 6	6	39	0.71	.....	0.54	7.6	4	10	12	9	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.48	.....	3	3	21	7	e.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.29	.....	0.25	3.5	2	11	13	7	w.	M. E. Uggen.
Fessenden	Wells	1,610	6	34.0	.....	70	30	− 4	5†	39	0.24	.....	0.14	1.0	2	22	2	7	sw.	G. T. Seymour.
Forman	Sargent	1,249	26	37.7	+12.1	73	30	− 3	10	48	0.80	−0.12	0.60	8.0	2	16	11	4	sw.	A. Maltby.
Fullerton	Dickey	1,439	20	36.2	+10.6	75	30	− 8	6	39	0.94	−0.37	0.60	9.4	3	17	5	9	s.	F. O. Alin.
Garrison	McLean	1,901	23	35.0	+13.2	70	25†	− 7	6	40	0.63	−0.40	0.38	5.0	5	17	7	7	sw.	G. L. Robinson.
Grafton	Walsh	827	26	33.6	+14.4	69	30	− 8[a]	6	44[a]	0.21	−0.53	0.20	0	2	.....	.....	.....	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	26	35.3	+12.5	74	30	− 3	6	40	0.04	−0.69	0.02	0	3	22	6	3	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	35.5	.....	76	30	− 8	6	38	0.55	.....	0.50	5.5	2	20	5	6	s.	G. H. Lucas.
Granville	McHenry	1,504	11	35.2[a]	+11.5	67[a]	25†	− 5[a]	5†	42[a]	0.19	−0.34	0.11	0.5	3	.....	.....	.....	w.	W. A. Christianson.
Hannah	Cavalier	1,568	13	32.8	+12.1	64	23†	−10	6	35	0.12	−0.50	0.12	T.	1	15	10	6	w.	J. Moffatt.
Hansboro	Towner	1,597	10	33.6[c]	.....	68[f]	30	−10	5	48[f]	T.	.....	T.	T.	0	8	16	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	39.0	+10.9	76	35	− 8	6	43	.....	.....	.....	.....	.....	22	5	4	nw.	U. J. Downey.
Hillsboro	Traill	901	12	35.5	+10.8	73	30	− 4	6	35	T.	−0.91	T.	T.	0	13	14	4	s.	F. E. Mayall.
Howard	Williams	2,275	11	32.9	+11.6	72	25	− 9	6	40	0.27	−0.91	0.15	2.5	3	20	2	9	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	33.0	+10.2	71	30	− 4	6†	47	0.53	−0.48	0.40	5.0	4	12	4	15	se.	S. Calvelage.
Lakota	Nelson	1,579	17	34.0	+14.7	68	30	− 2	5	44	0.12	−0.47	0.12	T.	3	18	9	4	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	33.8	+10.8	68	25†	− 4	5	37	0.48	−0.37	0.20	4.0	3	.....	.....	.....	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	30.6	+11.5	64	30	−10	6†	39	0.10	−0.57	0.10	0	1	13	7	11	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	34.8	+13.6	71	30	− 5	6	42	0.10	−0.73	0.10	T.	1	15	7	9	s.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	34.0	+7.4	68	30	− 3	6	40	1.00	+0.42	0.70	10.0	2	23	2	6	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.40	5.0	3	15	10	6	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	34.7	.....	69	30	− 5	6	37	0.70	.....	0.60	1.0	2	21	9	1	sw.	P. E. Trudeau.
McKinney	Renville	1,640	24	35.3	+16.5	72	29	− 4	5	47	0.05	−0.79	0.05	0.5	1	19	6	6	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	37.0	.....	63	29	− 4	10	41	0.20	.....	0.15	2.0	2	15	9	7	w.	R. D. Markland.
Maddock	Benson	1,604	3	34.9	.....	66	30	− 3	6	38	0.40	.....	0.40	T.	1	6	11	14	sw.	F. P. Cowing.
Mandan	Morton	1,644	4	35.8	.....	74	30	− 8	6	43	0.45	.....	0.32	.....	4	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	35.0	+11.8	68	30	− 2	5†	38	0.57	−0.29	0.50	1.5	3	9	11	11	sw.	P. B. Anderson.
Marmarth	Slope	.....	9	34.8	.....	72	25	−15	6	40	0.70	.....	0.29	7.0	5	16	7	8	sw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	.....	.....	.....	.....	.....	.....	.....	0.65	.....	.....	4.0	.....	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	22	37.3	+14.1	76	29	− 4	6	45	0.02	−0.66	0.02	0	1	23	2	6	w.	W. C. Gould.
Melville	Foster	1,590	20	36.4[h]	+13.6	66[h]	30	0[h]	5†	38[h]	1.20	+0.58	0.50	7.0	3	.....	.....	.....	.....	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	1.16	.....	0.66	4.0	3	23	3	5	sw.	Hj. Edman.
Minot	Ward	1,557	22	32.8	+11.6	70	24†	− 8	7	49	0.14	−0.61	0.08	0.5	3	7	14	10	w.	W. I. Faris.
Minto	Walsh	820	25	35.0	+13.9	71	30	− 7	6	43	0.15	−0.75	0.15	0	1	19	4	8	nc.	C. M. Evans.
Mott	Hettinger	2,424	11	37.3	+10.0	77	27	5	8	31	1.10	+0.15	0.33	9.0	8	10	10	11	w.	O. H. Oplaud.
Napoleon	Logan	1,955	26	33.7	+12.3	75	30	−11	6	54	0.35	−0.56	0.20	6.0	3	17	4	10	sw.	C. J. Hoof.
New England	Hettinger	2,400	24	.....	.....	69[j]	25	.....	.....	.....	0.60	−0.22	0.60	6.0	1	.....	.....	.....	.....	J. M. Connolly.
New Salem	Morton	2,168	13	33.6	+8.9	72	30	− 8	5	43	0.81	−0.16	0.70	7.5	4	22	5	4	sw.	J. Christiansen.
Orange‡‡	Adams	2,586	9	36.2	.....	75	25	−11	6	49	0.90	.....	0.40	9.0	3	6	11	14	sw.	T. F. Young.
Park River	Walsh	998	14	35.4[a]	+13.3	69[a]	30	− 2[a]	6	40[a]	0.25	−0.30	0.25	0	1	.....	.....	.....	nw	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	24	4	3	nw.	J. A. Johnson.
Pembina	Pembina	789	44	33.2	+17.1	62	17†	−10	6	38	0.05	−0.90	0.02	0	4	14	14	3	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.15	1.5	2	13	10	8	w.	C. Frank.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.22	2.5	3	.....	.....	.....	nw.	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	36.6	+15.9	71	31	− 6	6	35	0.85	+0.01	0.39	4.0	3	15	14	2	s.	H. S. Wood.
Taylor	Stark	2,493	2	.....	.....	.....	.....	−10	7	.....	0.30	.....	0.28	.....	2	6	19	6	sw.	H. Leutz.
Towner	McHenry	1,482	16	36.0	+17.0	69	30	− 3	5†	45	0.00	−1.07	0.00	0	0	21	4	6	s.	B. Bagley.
Valley City	Barnes	1,245	.....	36.4	.....	72	30	− 4	6	34	0.36	.....	0.25	2.2	3	16	8	7	sw.	C. G. Carlson.
Wahpeton	Richland	962	24	35.8	+9.0	72	30	−10	10	37	0.19	−0.77	0.06	.....	5	20	5	6	se.	F. E. Smith.
Walhalla	Pembina	966	11	31.7[d]	+11.8	68[e]	30	−10[d]	6	50[d]	0.05	−0.67	0.03	T.	2	17	10	4	w.	Ivan Lee.
Washburn	McLean	1,734	19	37.0	+12.7	74	30	− 6	6	40	0.26	−0.43	0.20	.....	2	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	34.4	+13.5	67	26	− 5	5	38	0.75	+0.20	0.75	T.	1	18	4	9	w.	W. A. Meddaugh.
Williston	Williams	1,875	39	35.6	+14.0	74	25	− 2	6	40	0.48	−0.20	0.25	2.8	5	10	14	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	32.5	+14.4	65	29	− 5	5	43	0.12	−0.58	0.12	T.	1	8	18	5	se.	M. A. Ostby.
Zap	Mercer	1,800	5	33.3	.....	70	24†	+12	6	45	0.23	.....	0.09	6.1	4	20	5	6	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	36.2	+14.8	74	30	− 6	10	37	0.37	−0.77	0.28	3.6	5	20	5	6	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	35.0	+12.4	82	30	−15	6	54	0.39	−0.44	0.75	2.9	2	16	8	7	sw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for March, 1918.

Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red						T.			.03				.03															.01				0.07
Ashley	Missouri					.20				.40				.30															T.				0.90
Beach	Lit. Missouri													T.																			T.
Berthold Agency	Missouri				T.	.03			T.	.09			.01															.05				0.18
Bierman	Lit. Missouri				T.	.15			*	.60																					.05	0.80
Bismarck ***	Missouri				T.	.08	T.		.21	.21				T.														.35		T.		0.85
Bottineau ‖ ‖	Mouse																											.03	T.		T.	0.03
Bowbells ‖ ‖	Mouse																											.16					0.16
Bowman	Grand					.14			*	.28				.35														.06			.02	0.85
Buford	Missouri				T.			T.	.11			T.	T.																			0.11
Cando	Sheyenne																															
Carson	Heart					.10			.05	.60				.02														.12				0.89
Colgate	Sheyenne				T.	T.				.02			.03								T.							T.				0.05
Cooperstown	Sheyenne																															
Crosby	Mouse				.05							.30																.14				0.49
Devils Lake ***	Sheyenne				T.							T.	T.								.01								.21		T.	0.22
Dickinson ‖	Heart					.02	.02			.27			T.															T.			T.	0.31
Donnybrook	Mouse					T.				T.	T.																	.10				0.10
Dunn Center	Knife																															
Dunseith	Mouse				T.	T.						T.									T.							.20				0.20
Eckman	Mouse					T.				T.																			.50				0.50
Edgeley	James					.05		T.					.05															T.				0.10
Ellendale	James					.02			.19	.35				.15														T.				0.71
Energy	Missouri		T.		.02					.49		.09	T.															T.		T.		0.59
Epping	Missouri									.04			.25																			0.29
Fessenden ‖ ‖	James					T.				.10																		T.	.14			0.24
Forman	Sheyenne						T.			.60				.20																			0.80
Fullerton	James					.12			T.	.60				.22							T.											0.94
Garrison	Missouri				.01	.04				.38			.12															.08				0.63
Grafton ‖ ‖	Red																				T.								.20	.01		0.21
Grand Forks	Red				.02																.01							.01			T.	0.04
Grand Rapids	James					.05				.50				T.														T.				0.55
Granville	Mouse					T.							.05							.03								.11				0.19
Hannah	Pembina				T.							T.																.12				0.12
Hansboro	Red																				T.										T.	T.
Hettinger	Grand																															
Hillsboro	Red					T.															T.											T.
Howard	Missouri				T.	T.		T.	T.	.11		.15																T.	.01				0.27
Jamestown ‖ ‖	James					T.			.08			.40		.02							T.								.03				0.53
Lakota	Sheyenne				T.																								.12			T.	0.12
Lamoine	Missouri				T.				*	.20			.20																.08				0.48
Langdon ‖	Pembina																						T.						.10				0.10
Larimore ‖	Red					T.																	T.						.10				0.10
Linton	Missouri																															
Lisbon ‖	Sheyenne					T.	.30			.70																							1.00
McClusky	Missouri				T.					.40			.10																.30				0.80
McHenry	James					T.				.10											T.								.60			T.	0.70
McKinney	Mouse				T.	T.				.05		T.																					0.05
McLeod	Sheyenne					.15								.05																			0.20
Maddock	Sheyenne																												.40				0.40
Mandan ‖	Missouri					T.	.01			.09																			.03	.32		T.	0.45
Manfred	Sheyenne				T.	.02				.05																			.50				0.57
Marmarth	Lit. Missouri					.16			*	.20				.29	T.														T.			.05	0.70
Marstonmoor	James																															
Mayville	Red																	T.												.02			0.02
Melville	James					T.			.40				.30								T.								.50				1.20
Milnor	Red					.25			T.	.66				.25																			1.16
Minot ‖	Mouse					T.	T.			.03					.03						T.								.08				0.14
Minto	Red																				T.								.15				0.15
Mott	Cannon Ball				.11	.15			.26	.09				.33															.06		.08	.02	1.10
Napoleon ‖	Missouri						.10			.20																					.05		0.35
New England	Cannon Ball									.60				T.																			0.60
New Salem	Heart						.04		T.	.70		.06																	.01			T.	0.81
Orange	Cannon Ball						.20			.30				.40																			0.90
Park River	Red		T.																										.25				0.25
Parshall	Missouri																																0.00
Pembina ‖	Red	.01	.01	.01																										.02			0.05
Powers Lake	Missouri				T.					.15		T.																	.10				0.25
Sanish	Missouri					.05			.20																				.22				0.47
Searing	Lit. Missouri																															
Steele	Missouri		T.	T.	.13	T.		T	.39												T.							T.	.33				0.85
Taylor	Heart					.02			.28																T.							T.	0.30
Towner	Mouse																																0.00
Valley City	Sheyenne				T.	.05			.25				.06						T.										T.				0.36
Wahpeton ‖	Red					T.	.02			.06	.03			.05																.03			0.19
Walhalla	Pembina					T.						T.									T.							.03	T.		.02	0.05
Washburn	Missouri								.20			T.																.06				0.26
Westhope	Mouse											T.																.75				0.75
Williston ***	Missouri				T.	T.			.11	.14		T.	.13															.05	.05				0.48
Willow City	Mouse						T.														T.								.12				0.12
Zap	Knife					.01				.07			.09																.06				0.23
Moorhead, Minn ***	Red					.07			.04	.24			.01																.01				0.37

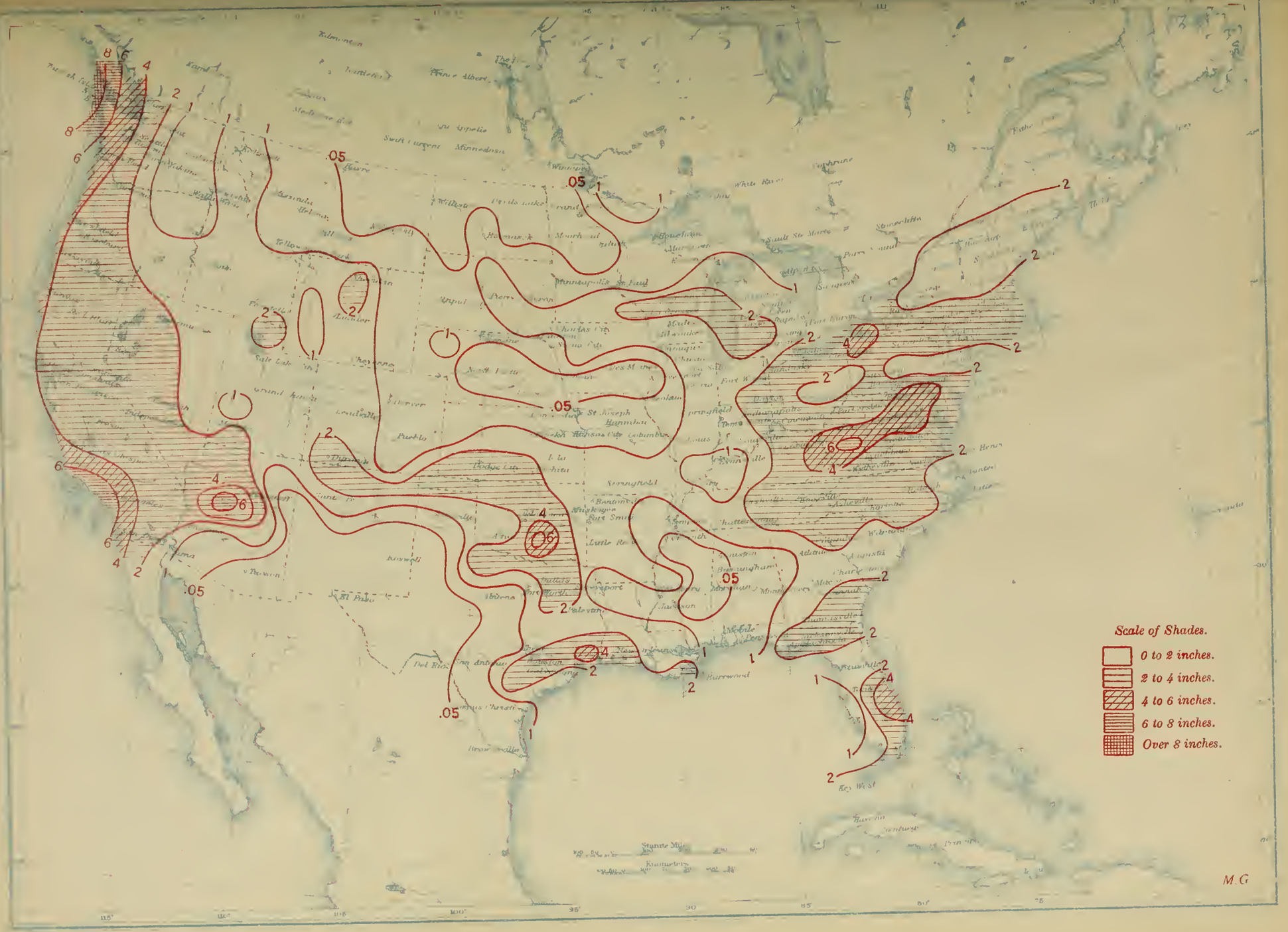
Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	57	48	52	37	26	26	36	22	26	33	40	32	41	42	47	60	58	68	65	51	49	55	65	62	61	62	58	60	67	76	58	49.7
	Minimum	9	23	20	26	8	−7	−8	9	9	−3	7	20	25	27	12	12	27	30	30	32	34	19	22	24	30	23	24	27	22	23	35	19.1
Ashley	Maximum	50	47	53	54	27	33	35	31	16	36	43	33	32	34	33	45	50	55	56	52	52	54	64	63	63	60	58	56	60	74	59	47.7
	Minimum	24	24	28	26	3	−8	20	10	5	1	18	26	25	14	8	23	28	34	32	28	30	28	32	28	30	28	32	37	25	37	32	23.0
Beach	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	56	50	57	60	56	66	69	75	72	54	58	60	58	55	.....
	Minimum	6	4	5	2	3	0	−2	−4	3	8	10	4	2	16	27	25	15	34	34	33	30	28	26	30	32	33	30	37	30	32	26	18.0
Berthold Agency	Maximum	54	53	57	50	19	29	34	31	23	40	35	31	....	35	49	55	57	65	....	62	56	68	61	72	75	71	64	60	66	73	58	[b]51.8
	Minimum	24	21	29	5	0	−7	18	6	6	16	21	....	16	13	29	20	28	31	....	32	26	32	35	25	31	34	43	44	26	33	29	[b]22.1
Bismarck	Maximum	58	44	52	36	13	31	31	22	16	33	36	33	34	36	47	54	57	66	58	64	54	60	64	69	68	64	61	50	64	73	54	48.5
	Minimum	28	25	31	13	2	−8	17	9	5	6	13	28	28	18	15	32	29	33	31	38	30	32	36	32	35	33	36	34	28	38	31	24.5
Bottineau §§	Maximum	48	41	44	19	18	27	33	21	21	38	28	33	37	38	51	54	50	57	56	60	58	61	59	56	75	63	59	59	67	65	48	46.7
	Minimum	10	20	20	18	−6	−5	−2	−2	1	4	18	18	19	13	15	20	25	28	31	29	26	26	32	27	34	33	34	35	23	28	26	19.3
Bowbells §§	Maximum	39	35	50	24	12	31	24	18	22	33	32	29	32	37	45	52	54	55	45	57	58	63	62	66	62	66	62	64	56	51	55	44.9
	Minimum	8	10	18	12	−8	−8	−3	−4	1	2	15	7	8	11	15	32	28	43	32	38	24	21	36	30	27	33	40	34	26	22	20	18.4
Cando	Maximum	48	40	47	44	7	27	32	27	20	39	32	32	42	....	52	....	57	63	67	55	49	....	....	50	61	....	61	54	64	68	64	[c]46.5
	Minimum	20	24	31	4	−5	−5	4	2	1	3	16	19	22	....	15	....	27	30	31	32	31	....	....	21	35	....	29	38	28	48	26	[c]20.3
Carson	Maximum	56	40	50	40	30	24	33	20	15	40	35	32	30	33	38	45	50	60	55	60	55	50	66	63	70	65	60	50	60	72	65	47.0
	Minimum	26	27	28	28	−1	−14	8	10	2	2	15	15	24	13	8	27	28	33	33	38	28	29	32	33	30	32	35	34	30	38	28	22.5
Crosby	Maximum	42	36	43	32	12	26	30	20	21	33	32	33	50	38	70	70	66	58	51	50	61	62	64	62	74	67	60	72	63	63	50	48.7
	Minimum	21	13	28	0	−4	−2	12	5	9	6	20	8	20	15	31	31	32	33	34	31	25	34	34	32	49	12	44	35	32	36	28	23.8
Devils Lake	Maximum	48	41	49	35	8	27	31	19	19	33	32	32	40	37	49	58	56	65	57	53	45	55	62	54	59	58	56	46	62	67	54	45.4
	Minimum	25	26	30	2	−3	−5	10	4	5	8	19	21	22	20	20	33	28	36	37	35	30	30	34	24	34	31	32	35	29	36	29	23.1
Dickinson	Maximum	47	41	54	32	28	27	31	17	18	39	37	31	30	34	43	48	54	59	53	60	55	65	60	68	75	70	64	57	64	70	53	47.9
	Minimum	20	20	28	28	1	−12	1	8	4	2	18	21	26	19	16	23	33	32	33	35	27	35	33	29	29	37	43	43	27	37	27	23.3
Donnybrook	Maximum	48	42	48	44	9	28	32	30	19	42	54	47	58	40	48	52	55	58	58	61	55	67	64	70	69	66	65	58	64	68	51	50.6
	Minimum	27	21	30	6	−6	−5	9	2	4	10	19	13	26	16	20	36	29	36	41	31	38	31	31	26	26	31	41	40	26	42	28	23.4
Dunseith	Maximum	46	42	45	40	4	25	30	28	16	35	32	30	38	35	51	55	53	55	55	58	52	56	58	53	58	60	57	55	66	61	58	45.4
	Minimum	13	20	26	−1	−9	−7	8	−5	1	−1	14	16	21	12	16	25	27	27	36	30	24	29	31	26	34	31	32	36	25	31	27	19.2
Edgeley	Maximum	55	48	51	45	31	29	35	32	17	30	41	34	34	35	41	47	55	58	59	52	52	54	66	62	59	60	59	58	63	76	56	48.2
	Minimum	24	26	25	26	2	−11	19	8	6	−2	7	21	25	22	9	29	31	37	32	32	34	24	29	33	30	25	33	38	28	35	31	22.8
Ellendale	Maximum	55	44	50	49	19	33	35	27	17	32	43	33	34	34	35	47	47	54	58	54	52	53	62	61	64	59	59	56	62	75	54	47.0
	Minimum	22	26	27	19	5	−6	23	13	1	−2	13	27	27	22	11	18	29	30	31	36	30	25	28	27	29	28	24	39	30	39	35	22.8
Fessenden §§	Maximum	58	43	49	31	27	28	33	21	27	30	32	32	39	39	45	56	55	65	56	55	49	57	62	63	61	60	58	47	64	70	50	47.2
	Minimum	14	24	26	27	−4	−4	1	3	3	3	15	20	22	15	18	22	25	32	32	32	29	29	35	23	28	24	30	34	25	31	27	20.7
Forman	Maximum	56	49	52	47	40	29	36	33	22	37	43	40	34	39	30	48	55	59	58	55	52	57	64	64	64	60	59	61	65	73	67	50.2
	Minimum	25	28	27	36	8	−1	23	10	10	−3	19	27	28	28	16	27	30	35	32	35	32	25	32	30	32	28	29	32	27	37	37	25.2
Fullerton	Maximum	54	43	50	49	23	31	34	27	19	31	40	41	35	35	37	50	51	56	58	54	51	53	61	61	62	59	60	57	61	75	67	48.2
	Minimum	28	27	26	31	5	−8	15	12	8	−1	23	13	26	25	14	28	30	33	33	35	35	25	28	28	31	27	27	43	27	40	34	24.1
Garrison	Maximum	52	42	50	40	18	29	33	26	19	24	30	33	35	37	45	52	54	56	56	62	52	63	58	58	70	65	63	55	66	70	56	47.7
	Minimum	24	21	24	17	−3	−7	16	5	4	7	1	19	24	10	10	31	29	35	31	35	27	32	33	29	30	33	39	40	36	36	27	22.4
Grafton §§	Maximum	50	44	50	35	29	28	32	21	21	34	35	30	44	36	53	62	57	68	62	54	47	56	66	53	62	61	57	52	65	69	51	47.9
	Minimum	....	9	26	29	−1	−8	−4	3	4	5	11	17	15	24	7	18	26	31	31	30	29	22	30	23	30	25	27	33	25	31	30	[a]19.4
Grand Forks	Maximum	50	41	49	39	14	29	33	25	20	32	41	32	43	38	50	67	57	66	62	50	45	55	65	53	60	58	58	52	64	74	52	47.5
	Minimum	22	28	31	14	3	−3	13	6	8	6	22	20	21	19	12	28	27	31	35	34	29	24	35	25	34	29	28	35	24	36	40	23.1
Granville	Maximum	51	44	53	33	15	30	33	23	22	38	29	35	35	40	50	55	58	62	63	50	64	60	66	65	67	60	58	67	63	55	....	[a]48.4
	Minimum	28	24	31	5	−5	−5	12	15	−5	5	19	18	27	15	18	34	28	30	31	30	34	34	26	27	28	40	37	25	28	28	....	[a]23.1
Hannah	Maximum	42	39	37	30	16	25	30	27	24	32	26	31	38	34	48	50	54	60	54	56	45	59	64	55	54	59	61	53	56	64	46	44.2
	Minimum	18	24	23	7	−8	−10	8	0	3	7	12	18	22	26	20	30	31	31	36	29	26	24	33	23	27	29	31	34	28	37	32	21.5
Hansboro	Maximum	.....	.....	.....	.....	.....	.....	30	28	18	33	30	28	37	35	50	55	53	59	55	57	47	56	58	55	60	60	59	55	69	68	59	[f]48.6
	Minimum	20	22	26	−2	−10	−9	9	−4	1	2	14	15	21	13	14	30	25	30	30	30	24	26	32	23	26	25	31	37	21	34	20	18.6
Hettinger	Maximum	58	60	56	46	32	33	37	27	35	36	46	38	35	38	41	44	56	67	56	62	58	67	65	64	76	70	67	60	65	69	67	52.6
	Minimum	28	32	33	27	0	−8	18	11	12	12	23	27	27	24	20	28	30	30	31	33	30	34	30	31	33	33	32	38	25	33	27	25.3
Howard	Maximum	38	37	41	34	11	23	32	19	18	31	29	24	33	32	38	40	46	53	57	55	57	58	60	68	72	70	60	57	68	66	52	44.8
	Minimum	14	11	24	11	−5	−1	13	5	−3	6	18	9	23	10	17	26	30	32	31	27	24	32	34	30	32	35	41	32	34	37	28	21.0
Jamestown §§	Maximum	54	45	52	38	28	29	35	23	18	31	37	32	37	38	46	56	58	64	59	50	50	55	64	62	61	60	61	58	63	71	52	48.0
	Minimum	11	27	28	30	3	−4	19	9	2	−4	2	12	16	15	9	8	20	28	23	23	24	16	17	15	25	30	30	30	28	29	34	17.9
Lakota	Maximum	46	42	47	44	13	23	31	30	25	48	39	45	29	48	48	58	50	64	58	57	54	53	64	57	56	57	55	49	63	68	57	47.5
	Minimum	22	23	25	12	−2	5	20	5	2	4	29	12	12	8	12	20	33	30	31	33	25	21	34	21	26	29	29	34	25	30	28	20.6
Lamoine	Maximum	51	42	59	47	19	24	32	26	17	27	32	29	32	37	39	40	51	57	55	54	50	55	62	64	68	68	60	60	60	68	59	46.6
	Minimum	21	17	27	19	−4	13	15	3	4	1	14	14	21	18	4	7	24	32	32	32	25	25	31	28	31	36	34	32	32	35	31	20.9
Langdon	Maximum	43	43	45	25	20	24	9	23	17	34	25	29	36	34	49	54	52	62	63	55	44	53	60	53	58	58	55	54	62	64	46	43.5
	Minimum	4	18	6	20	−5	−10	−10	−6	−1	−3	12	12	12	15	20	30	29	26	30	32	25	26	34	25	29	30	29	36	30	31	27	17.8
Larimore §§	Maximum	49	41	48	32	32	27	33	18	18	32	40	29	40	38	50	60	58	67	60	48	45	53	64	54	60	58	55	57	62	71	52	46.8
	Minimum	24	27	26	32	−1	−5	10	18	5	3	18	20	17	24	8	30	28	35	35	33	33	23	31	24	30	27	28	32	27	36	30	22.8
Lisbon §§	Maximum	38	36	39	36	25	24	26	25	32	36	42	38	40	38	42	46	48	54	50	56	56	60	64	66	62	66	64	68	65	69	65	46.1
	Minimum	20	22	20	25	15	−3	6	12	8	12	15	14	18	22	24	22	26	25	22	28	30	28	31	30	29	26	29	30	28	30	33	21.8
McHenry	Maximum	51	42	48	39	16	27	34	26	20	33	38	33	37	39	49	57	63	60	59	53	57	57	47	59	61	60	58	48	61	69	62	46.6
	Minimum	22	24	28	15	−2	−5	15	4	5	−4	17	19	22	24	25	25	26	33	34	33	37	26	43	27	32	26	28	32	25	35	37	22.8
McKinney	Maximum	45	45	45	40	6	32	34	27	20	34	36	29	36	40	52	54	60	60	56	61	52	67	65	68	66	70	61	60	72	64	61	49.0
	Minimum	16	21	25	6	−4	−3	10	−2	6	4	19	13	27	14	20	33	28	35	37	30	28	28	38	23	25	29	40	32	25	36	30	21.6
Maddock	Maximum	50	45	48	46	10	26	32	30	19	32	33	33	39	39	47	56	56	63	58	56	56	61	58	60	60	57	57	62	66	57	47.4
	Minimum	25	25	30	8	4	−3	11	2	5	4	19	22	24	16	18	33	27	30	33	32	30	27	37	24	30	26	31	38	28	35	28	22.5
Marmarth	Maximum	49	41	50	39	18	25	32	21	20	44	40	33	31	33	42	45	56	60	49	56	56	65	58	66	72	69	66	56	60	69	50	47.5
	Minimum	27	20	25	18	−6	−15	10	10	−2	15	20	20	27	16	15	26	28	31	33	32	25	30	32	29	32	31	33	39	26	30	25	22.0
Minot §§	Maximum	56	43	55	31	24	29	33	24	20	35	28	34	36	39	56	34	52	61	46	63	49	65	58	58	70	65	70	55	60	64	68	47.5
	Minimum	13	21	20	24	−6	−7	−8	1	0	−3	12	14	12	13	12	20	23	24	35	26	26	24	32	21	24	28	38	42	21	36	26	18.2
Mott	Maximum	52	46	39	34	28	37	26	21	24	38	36	29	25	32	38	44	53	58	47	52	61	52	63	68	73	70	77	62	60	56	50	46.8
	Minimum	28	25	22	20	13	18	12	5	11	6	22	15	11	14	21	26	27	33	38	36	42	40	44	44	48	43	46	41	43	38	30	27.8
Napoleon §§	Maximum	51	45	52	36	28	30	35	21	18	32	38	33	34	35	35	46	50	54	58	54	52	56	65	66	65	61	61	52	62	75	53	46.9
	Minimum	20	24	25	28	0	−11	15	6	4	−3	8	18	24	12	10	15	25	31	32	31	34	29	30	29	33	29	30	34	22	21	29	20.5
New Salem	Maximum	55	50	52	40	18	28	23	26	15	38	35	32	31	35	41	30	54	52	56	62	58	53	53	57	70	65	52	54	64	72	58	46.1
	Minimum	16	28	26	15	−8	3	−3	3	2	−2	10	23	23	10	12	20	30	34	42	35	29	29	30	25	27	27	35	37	29	38	25	21.0
Orange	Maximum	55	51	52	48	32	31	35	32	17	42	43	38	30	32	38	44	52	18	54	59	60	63	62	67	75	72	60	53	62	73	60	50.0
	Minimum	22	23	29	25	2	−11	14	11	6	5	16	24	26	17	0	21	26	31	30	36	38	33	32	30	26	31	38	35	24	29	27	22.5
Park River	Maximum	47	....	49	15	14	25	32	32	15	35	33	32	43	38	52	60	58	68	63	56	47	59	65	63	61	60	58	59	63	69	66	[a]47.8
	Minimum	27	....	15	13	0	−2	10	4	5	6	17	18	16	24	12	34	28	38	38	34	32	40	26	28	30	28	35	34	31	39	31	[a]23.0
Pembina §§	Maximum	46	34	46	34	26	28	32	28	26	34	32	28	42	46	52	58	62	54	46	44	42	54	62	51	50	62	60	52	58	62	48	45.1
	Minimum	18	15	20	26	−2	−10	5	10	−2	5	10	5	10	28	30	34	36	34	32	30	28	26	32	30	28	28	32	30	28	32	34	21.4
Steele	Maximum	55	42	44	45	30	26	32	12	12	31	35	37	35	34	49	53	53	65	50	53	44	66	65	65	60	56	61	56	65	71	47.7
	Minimum	28	26	26	24	26	−6	18	7	4	2	8	26	24	10	10	25	32	35	36	40	38	40	38	40	40	38	32	33	30	33	40	25.4
Towner	Maximum	52	45	51	45	11	28	37	33	24	37	34	34	40	40	53	57	58	63	59	63	57	57	59	63	64	66	62	58	67	69	65	50.0
	Minimum	24	12	30	8	−3	−3	12	5	6	7	19	20	27	16	19	31	26	29	38	31	31	31	37	25	31	27	36	36	22	28	27	22.1
Valley City	Maximum	48	52	48	50	29	21	33	31	17	30	36	35	38	38	42	47	54	64	59	55	49	53	62	55	58	56	53	55	54	72	68	47.2
	Minimum	32	30	32	29	3	−4	15	8	7	2	19	25	24	26	14	27	29	34	36	41	32	28	32	29	32	26	33	34	38	15	25.5
Wahpeton §§	Maximum	58	46	52	43	33	32	35	24	13	25	40	31	34	39	40	56	53	65	60	56	45	52	60	61	58	60	58	58	62	72	62	48.0
	Minimum	15	28	25	33	12	−1	−2	12	13	−10	5	24	29	28	15	29	33	30	32	35	33	23	29	28	32	31	29	33	30	38	29	23.5
Washburn	Maximum	45	45	53	42	28	28	35	32	24	34	33	32	35	35	45	51	54	63	67	64	64	60	64	68	70	64	64	54	65	74	64	50.0
	Minimum	20	22	30	28	0	−6	19	20	6	4	20	20	21	10	9	20	29	33	33	37	28	52	37	37	29	32	34	37	45	25	45	29.1
Westhope	Maximum	49	51	50	28	16	30	33	22	23	40	21	28	36	36	51	55	58	60	56	60	49	65	58	65	64	67	60	58	66	66	57	47.7
	Minimum	20	22	28	2	−5	−3	6	0	−1	5	18	14	25	11	18	31	27	30	34	30	27	30	34	28	33	31	36	40	28	31	27	21.2
Williston	Maximum	47	40	48	32	6	30	32	21	19	32	32	28	33	34	45	47	54	59	50	56	54	66	56	71	74	74	66	57	63	67	50	46.5
	Minimum	26	18	31	6	−1	−2	16	9	10	11	21	14	21	15	16	34	32	34	35	32	29	36	35	34	41	44	36	35	35	28	24.8
Willow City	Maximum	47	39	47	21	8	26	31	19	19	38	27	32	37	38	51	55	54	57	55	59	47	59	58	59	60	60	59	57	65	63	47	45.0
	Minimum	15	22	26	5	−5	−1	8	−2	6	3	18	18	25	14	25	28	26	26	31	29	26	26	29	25	30	26	31	32	22	31	26	20.0
Zap	Maximum	49	40	50	33	18	26	31	24	10	35	33	30	31	33	42	50	48	59	54	59	48	61	52	70	70	70	58	53	70	70	55	46.2
	Minimum	12	15	29	15	−3	−12	8	6	5	−1	12	20	24	9	5	27	27	29	31	36	24	32	31	25	29	32	40	41	35	25	25	20.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.

Total Precipitation, Inches, March



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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

APRIL, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JUNE 8, 1918.

Departure of the Mean Temperature from the Normal, April, 1918



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., APRIL, 1918. No. 4.

GENERAL SUMMARY.

Favorable weather conditions prevailed over the entire Section during April. Spring work on the farm began near the opening of the month, and, with the exception of occasional stormy days, continued with good progress to the close. As a result of these favorable conditions, an immense spring wheat acreage was practically completed, and the seeding of oats and barley well advanced, while plowing for corn and forage crops was started. Timely rains with mild temperature caused grass on pastures and ranges to make rapid growth, and livestock was in excellent condition.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 29.99 inches. The highest was 30.76 inches at Grand Forks, Grand Forks County, on the 8th; the lowest was 29.24 inches at Bismarck, Burleigh County, on the 17th.

TEMPERATURE.

The mean temperature for the State was 41.4°, or 0.3° below the normal, and 4.2° higher than the mean for April, 1917. The highest mean reported was 47.2° at Sanish, Mountrail County; the lowest was 37.6° at Langdon, Cavalier County. The highest temperature reported was 81° at Sanish, Mountrail County, on the 13th; the lowest was zero at Walhalla, Pembina County, on the 8th. The greatest daily range of temperature was 56° at Bottineau, Bottineau County, on the 24th. The greatest monthly range of temperature was 75° at Walhalla, Pembina County; the least was 56° at New England, Hettinger County. Usually the highest temperature was recorded on the 13th, and the lowest on the 2d, 3d or 8th.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 65 per cent, the average at 7 a. m. being 78 per cent, and at 7 p. m. 52 per cent.

PRECIPITATION.

The average precipitation for the State was 2.15 inches, or 0.77 inch above the normal, and 0.47 inch more than the average for April, 1917. The greatest monthly amount reported was 3.69 inches at Wahpeton, Richland County; the least was 0.75 inch at Bottineau, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 2.02 inches at Larimore, Grand Forks County, on the 29th. The average snowfall was 4.0 inches. The average number of days with 0.01 inch or more of precipitation was 8. The distribution of precipitation was fairly uniform throughout the month, particularly stormy periods being the 5-7th, inclusive, 15-19th, inclusive, and the 26-29th, inclusive. The greatest precipitation occurred in the Red River Valley, and the least over the middle northern portion of the State.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 14.3 miles. The greatest wind movement was 13,777 miles at Ellendale, an average of 19.1 miles per hour; the least was 8,130 miles at Williston, an average of 11.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 68 miles per hour from the north at Ellendale on the 28th.

SUNSHINE AND CLOUDINESS.

The sunshine was somewhat deficient; the average number of clear days was 12, partly cloudy days 10, and cloudy days 8.

ERRATA, FEBRUARY, 1918.

Page 12: Total snowfall at Beach should be 2.0.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.

Climatological Data for April, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	41.0	−1.1	73	13†	11	3	50	2.11	+0.18	0.93	.....	8	13	7	10	n.	E. T. Carley.
Ashley	McIntosh	2,001	21	40.4	−2.4	70	25	12	8	36	2.18	+0.14	0.70	1.0	8	17	3	10	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	39.8	−3.3	75	13	13	3†	38	2.27	+1.13	1.18	4.0	5	19	2	9	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	42.5[b]	−1.0	78[b]	13	9[b]	3	48[b]	2.49	+1.41	0.95	4.0	6	15	6	9	nw.	C. L. Hall.
Bierman	Slope	.....	2	39.8	.....	72	9†	14	7	42	2.38	.....	1.20	5.8	9	5	4	21	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	43.0	+0.4	72	25	16	2	38	2.13	+0.25	0.89	0.7	10	8	10	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	40.8	+1.7	75	13	9	3	56	0.75	−0.08	0.28	T.	6	11	8	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	39.1	.....	74	13	9	3	50	1.81	.....	1.02	2.0	8	17	0	13	.....	G. H. Phelps.
Bowman	Bowman	.....	4	39.6	.....	75	13	11	7	53	2.26	.....	1.15	8.0	7	6	9	15	nw.	W. H. Workman.
Buford	Williams	1,944	39	44.8	+2.1	78	13	13	3	43	1.73	+0.65	1.42	.....	4	10	12	8	nw.	P. Elmore.
Cando	Towner	1,488	17	46.8[c]	−0.2	74[c]	15	6[c]	8	40	0.86	−0.02	0.36	0	3	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	40.8	.....	75	13	10	7	35	2.99	.....	0.70	7.0	10	13	8	9	nw.	J. W. Evens.
Colgate	Steele	1,177	4	42.6	.....	80	14	12	8	46	1.66	.....	1.00	T.	6	14	9	7	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	1.65	+0.70	0.80	0.5	4	17	8	5	w.	S. Friswold.
Crosby	Divide	1,954	11	40.8[f]	+0.1	72[f]	9†	13[f]	26	41[f]	2.14	+1.26	0.77	0	5	.....	.....	.....	.....	B. Lancaster.
Devils Lake	Ramsey	1,478	14	41.2	+3.0	73	13	14	8	34	2.86	+0.83	1.55	5.1	8	13	8	9	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	40.7	−2.0	74	13	13	4	47	2.11	+0.89	0.64	5.6	9	10	4	16	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	19	43.7	+4.3	76	13	13	2	41	2.00	+1.15	0.90	T.	6	.....	.....	.....	n.	Geo. Michel.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	3.38	.....	1.20	4.5	7	11	4	15	se.	W. H. Mellow.
Dunseith	Rolette	1,682	22	40.6	+0.2	71	13†	2	3	47	1.40	+0.67	0.54	T.	6	9	8	13	ne.	J. G. Lamont.
Eckman	Bottineau	.....	13	42.9	+1.3	79	13	2	3	49	1.42	+0.44	0.68	1.0	5	14	6	10	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	41.4	−1.8	72	13†	11	2	48	2.64	+0.73	1.25	.....	6	7	11	12	s.	O. A. Thompson.
Ellendale	Dickey	1,449	20	41.1	.....	72	13	15	8	42	2.46	.....	0.95	4.3	7	10	12	8	s.	U. S. Weather Bureau.
Energy††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	2.19	.....	1.06	.....	10	4	19	7	nw	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	1.70	.....	0.77	0.5	4	12	13	5	nw.	M. E. Uggen.
Fessenden	Wells	1,610	6	39.8	.....	74	13	10	4	52	2.01	.....	0.75	6.0	6	17	7	6	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	44.8[a]	+0.9	76[a]	13	15[a]	2	45[a]	1.82	−0.39	1.00	0	6	.....	.....	.....	nw.	A. Maltby.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	2.68	.....	0.92	9.0	9	8	11	11	nw.	Verne King.
Fullerton	Dickey	1,439	20	41.4	−0.9	73	13	14	2	43	3.62	+1.71	1.69	9.6	6	15	6	9	nw.	F. O. Alin.
Garrison	McLean	1,901	23	41.2	−1.2	73	13	11	3	40	1.91	+0.85	1.06	4.0	4	9	10	11	se.	G. L. Robinson.
Grafton	Walsh	827	26	39.9	−0.1	74	14	9	3†	47	2.55	+1.04	0.91	0.7	7	22	5	3	s.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	41.8	−0.1	72	13	13	8	40	2.55	+0.46	1.60	T.	4	23	2	5	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	42.4	.....	74	13	13	2	46	2.48	.....	1.18	T.	5	21	1	8	nw.	G. H. Leick.
Granville	McHenry	1,504	11	42.3	−0.2	78	13	12	2	45	1.49	+0.48	0.62	3.0	4	12	6	12	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	39.0	−0.1	72	13	9	3	38	1.44	+0.32	1.01	T.	3	14	7	9	ne.	J. Moffatt.
Hansboro	Towner	1,597	10	40.0[e]	.....	71[e]	14	3[e]	8	47[e]	0.98	.....	0.42	T.	4	.....	.....	.....	.....	C. E. Blackorby.
Hettinger	Adams	2,253	10	42.4	−3.1	75	13	15	2	38	1.54	+0.81	0.38	.....	9	15	4	11	nw.	U. J. Downey.
Hillsboro	Traill	901	12	42.8	−0.8	72	25†	13	3†	41	2.93	+0.81	1.57	T.	6	12	14	4	s.	F. E. Mayall.
Howard	Williams	2,275	11	40.2	−0.3	76	9†	10	7†	48	3.14	+2.04	1.02	6.0	4	13	6	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	40.0	−2.5	71	14	13	3	41	2.81	+1.02	0.86	T.	6	10	3	17	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	39.8	+0.3	72	13	8	2	44	1.56	−0.02	1.37	4.0	4	12	8	10	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	40.2	−2.4	71	10	9	3	46	1.34	+0.49	.....	.....	7	15	7	8	se.	E. V. Virgin.
Langdon	Cavalier	1,615	22	37.6	−0.7	71	13	3	8	55	2.08	+1.04	0.75	T.	8	17	0	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	41.2	+1.1	71	14†	12	3†	37	3.33	+1.81	2.02	0	4	14	7	9	sw.	G. G. Graham.
Linton	Emmons	1,711	.....	43.0°	.....	79[d]	25	8°	7	46[d]	1.65	.....	0.50	2.0	6	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	40.6	−2.1	73	14	12	2†	49	2.19	+0.15	0.78	0	7	16	6	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	2.12	.....	0.85	4.0	8	12	10	8	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	41.7	.....	74	13	10	23	45	1.86	.....	1.04	11.0	7	14	9	7	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	44.2	+3.7	77	13	10	2	45	1.75	+0.80	.....	2.5	6	8	11	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	43.8	.....	74	13	13	8†	46	2.62	.....	1.14	T	8	14	6	10	se.	R. D. Markland.
Maddock	Benson	1,604	3	42.4	.....	73	13	12	2†	43	1.47	.....	0.80	3.0	4	7	13	10	se.	F. P. Cowing.
Mandan	Morton	1,644	4	42.0	.....	73	13	15	2	45	2.61	.....	0.68	.....	10	8	10	12	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	42.0	−0.1	75	13	12	3	40	1.84	+0.58	0.90	6.0	6	13	10	7	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	38.1	.....	72	13	10	7	46	2.02	.....	0.55	9.4	8	4	6	20	nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	40.5°	.....	75°	25	11°	2†	40[d]	3.06	.....	0.90	9.5	8	11	8	11	nw.	H. H. McCumber.
Mayville	Traill	975	22	43.4	+0.7	73	14†	11	8	44	2.62	+0.95	0.95	.....	7	23	2	5	sw.	W. C. Gould.
Melville	Foster	1,590	20	40.6°	+0.7	74	25	14	2	38	2.44	+1.42	0.92	7.2	6	.....	.....	.....	se.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	2.13	.....	0.77	0	6	19	3	8	nw.	Hj. Edman.
Minot	Ward	1,557	22	38.5	−3.0	70	13†	10	2	52	2.25	+0.99	1.60	3.0	6	13	5	12	nw.	W. J. Faris.
Minto	Walsh	820	25	41.6[d]	+1.0	73	13†	10[b]	3†	40[b]	2.63	+1.02	1.40	.....	6	15	7	8	se.	C. M. Evans.
Mott	Hettinger	2,424	11	39.5	−3.7	73	10	10	3	42	2.66	+1.41	0.66	2.0	10	7	7	16	nw.	O. H. Opland.
Napoleon	Logan	1,955	26	39.7	−1.7	76	26	11	3†	43	3.30	+1.56	1.02	16.0	8	11	7	12	s.	C. J. Hoof.
New England	Hettinger	2,400	24	39.4	−3.1	70	14	14	2	44	1.80	+0.82	0.63	3.0	8	16	3	11	nw.	J. M. Connolly.
New Salem	Morton	2,163	13	39.6	−3.4	71	11	10	2†	43	2.49	+1.36	0.95	0	11	15	4	11	s.	J. Christiansen.
Orange††	Adams	2,586	9	41.0	.....	73	13	15	2†	45	1.52	.....	0.77	3.0	6	4	15	11	nw.	T. F. Young.
Park River	Walsh	998	14	44.2[b]	+2.7	75[b]	14	12[b]	9	54[b]	2.04	+0.71	1.27	0	7	.....	.....	.....	nw.	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	2.56	.....	0.90	5.0	5	10	11	9	nw.	J. A. Johnson.
Pembina	Pembina	789	44	42.9	+5.4	72	14†	14	8	38	1.30	−0.35	1.00	0	3	13	11	6	nw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	2.30	.....	0.70	3.0	7	11	7	12	w.	C. Frank.
Sanish	Mountrail	2,260	4	47.2	.....	81	13	15	4	46	1.57	.....	0.64	2.0	4	.....	.....	.....	nw.	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	42.7	−1.5	72	12†	15	2	39	2.13	+1.07	0.96	2.0	7	14	11	5	se.	H. S. Wood.
Taylor	Stark	2,493	2	40.6	.....	72[a]	13	12	2	38[a]	2.40	.....	0.66	.....	10	0	19	11	se.	H. Leutz.
Towner	McHenry	1,482	16	43.4	+1.7	78	13	4	3	48	0.91	−0.38	0.53	T.	4	11	11	8	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	42.2	.....	73	13	11	2	41	1.31	.....	0.64	0.5	6	16	7	7	se.	C. G. Carlson.
Wahpeton	Richland	962	24	41.8	−2.6	71	14	12	23	51	3.69	+1.35	1.63	.....	6	19	5	6	se.	F. E. Smith.
Walhalla	Pembina	966	11	41.8	+1.9	75	14	0	8	48	2.81	+1.58	1.16	3.0	8	10	13	7	w.	Ivan Lee.
Washburn	McLean	1,734	19	43.3	−0.9	78	10	11	2	38	1.97	+0.92	0.90	.....	7	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	43.2	+3.2	74	10†	11	3	47	0.88	−0.10	0.35	T.	4	13	9	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	39	41.9	+1.4	75	13	14	3	37	2.22	+0.99	1.55	T.	6	7	13	10	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	40.4	+0.2	72	13	10	2†	47	1.15	+0.22	0.38	T.	5	8	14	8	se.	M. A. Ostby.
Zap	Mercer	1,800	5	40.0	.....	72	13†	10	3†	46	1.89	.....	0.94	6.8	9	9	12	9	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	42.6	+1.2	72	25	14	23	42	2.63	+0.30	1.72	3.4	9	19	6	5	se.	U. S. Weather Bureau.
Averages		.....	.....	41.4	−0.3	81	13	0	8	56	2.15	+0.77	2.02	3.0	7	12	8	10	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for April, 1918.

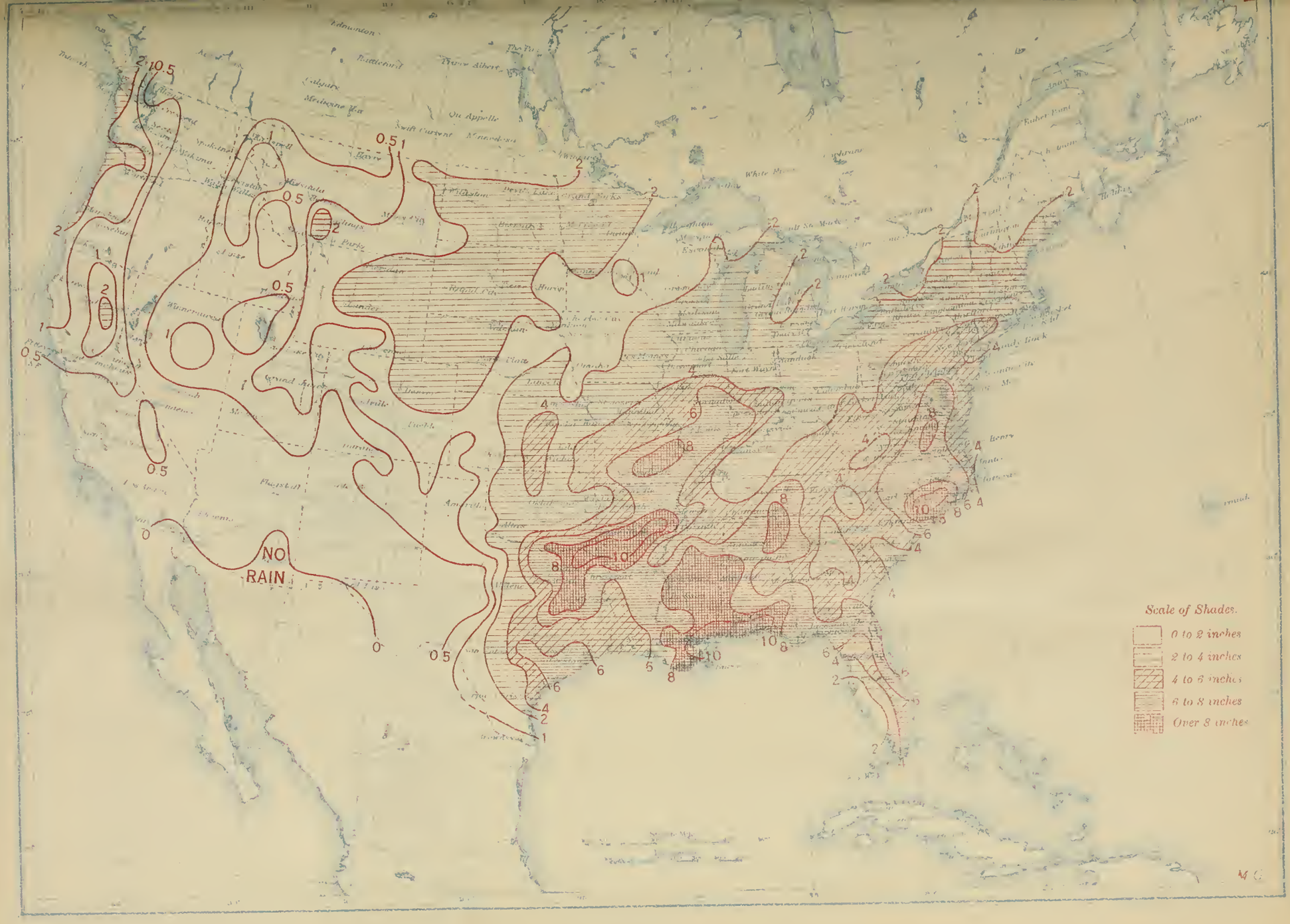
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red						.04	.11									.01	.12	.03								.02	.93	.85			2.11
Ashley	Missouri					.10	.16									.12	.70	T.								.07	.25	.58	.20			2.18
Beach	Lit. Missouri															.14	1.18	.42	.45				.08									2.27
Berthold Agency	Missouri				T.	.26										.35	.95	.70	.10				.13									2.49
Bierman	Lit. Missouri	T.			T.	T.	T.				T.	T.		T.		1.20	.10	.70	.12	.06			.10				.05	.02	.03			2.38
Bismarck ***	Missouri	T.	T.			.09	.17						.01			.17	.89	.21	.02	T.			.04			T.		.16	.37			2.13
Bottineau ‖ ‖	Mouse						.11	.12									.28	.21	T.			T.					.01			.02		0.75
Bowbells ‖ ‖	Mouse						.12	.13				.09					.18	1.02	.04	.03							.20						1.81
Bowman	Grand	T.			T.	.01	T.				T.						1.00		1.15		.01		T.				*	.08	.01			2.26
Buford	Missouri	T.	T.														1.42	.25	T.	T.			T.			.03		.03	T.			1.73
Cando	Sheyenne						.36										.30	.20														0.86
Carson	Heart	T.	T.			.05	.30						T.	.45		.70	.65	.50	.02				.12					.10	.10			2.99
Colgate	Sheyenne						.25									.25		.04	.04								T.		1.00	.08			1.66
Cooperstown	Sheyenne						.05										.50											.80	.30				1.65
Crosby	Mouse														T.	.42	.67	.77					.23				.05						2.14
Devils Lake ***	Sheyenne		T.			.05	.48					T.	T.			.05	.48	.01								.07		.50	1.22				2.86
Dickinson ‖ ‖	Heart					.05	.23					T.	T.	.11	.06	T.	.64	.55	.40	.06	T.			T.				.01	T.				2.11
Donnybrook	Mouse					*	.15									.10	.90	.10	.60	.05							.10						2.00
Dunn Center	Knife						.50					.01				.60	1.20	.90	.05	T.			.12										3.38
Dunseith	Mouse					.08	.24				T.		.02				.54	.17									T.	T.	.35				1.40
Eckman	Mouse	T.					.30	.02								.05	.68	.37	T.	T.							T.						1.42
Edgeley	James						.20										1.25	T.	.04									.19	.57	.39			2.64
Ellendale	James	T.	T.			.24	.01							T.		.15	.71	T.	T.								.13	.27	.95				2.46
Energy	Missouri	T.				.02	.30						.04			.33	1.06	.32	.01	T.		.01	.05					.05					2.19
Epping	Missouri						.03									.46	.77	.44															1.70
Fessenden ‖ ‖	James						.10	.09									.10	.52	T.								T.		.75	.45			2.01
Forman	Sheyenne						.25									.02	.20	T.									.20	.15	1.00				1.82
Fryburg	Lit. Missouri		T.			T.	.17				T.	.04				.64	.59	.92	.15				.03					.08	.06				2.68
Fullerton	James		T.				.38									.15	.68	T.									.19	.53	1.69				3.62
Garrison	Missouri	T.				T.	.33				T.		T.			.12	1.06	.40	T.	T.			T.					T.					1.91
Grafton ‖ ‖	Red						.20	.49									.14	.11									.20		.01	.50			2.55
Grand Forks	Red						.48										.25	T.	T.									.20	1.56				2.55
Grand Rapids	James						.10									.20	.80										T.	.20	1.18				2.48
Granville	Mouse	T.				T.	.31						T.	T.		T.	.62	.40					T.						.16				1.49
Hannah	Pembina						T.											.43										*	1.01				1.44
Hansboro	Red						.30										.20	.06											.42				0.98
Hettinger	Grand					.09	.08						T.		.25	.38	.35	.20	.10	.08								.01					1.54
Hillsboro	Red						.34	.17								T.	.11										T.	.12	1.57	.62			2.93
Howard	Missouri	T.									T.	T.		T.		.75	1.02	.77	T.	T.		T.	T.			.60		T.	T.				3.14
Jamestown ‖ ‖	James						.10	.05									.50	.96											.60	.70			2.81
Lakota	Sheyenne						.12						.02				.05											T.	1.37				1.56
Lamoine	Missouri	T.				T.											*	*	*	.85								*	*	.49			1.34
Langdon ‖	Pembina		T.				.05	.75							.03		.05	.36									.13		.47	.24			2.08
Larimore ‖	Red						T.	.42									T.	.79									.10		T.	2.02			3.33
Linton	Missouri					.15	.10										.50						.20						.40	.30			1.65
Lisbon ‖	Sheyenne						.22	.10									.11	.15	T.								T.	.15	.68	.78			2.19
McClusky	Missouri					.10	.15					.03				T.	.62	.08	.09									.20	.85				2.12
McHenry	James					.47	.35									.15	.50	.10									T.	.25	1.04				1.86
McKinney	Mouse	T.				T.	.10				T.					*	*	1.25								.10	.30						1.75
McLeod	Sheyenne		T.				.50	.12								.05	.09		T.								.23	.16	1.14	.33			2.62
Maddock	Sheyenne							.20									.38	.09										T.	.80				1.47
Mandan ‖	Missouri						.16	.10					.02	T.			.65	.68	.25	.06				.09					.25	.35			2.61
Manfred	Sheyenne					T.	.20	.04								T.	.50	.03	T.								T.	.17	.90				1.84
Marmarth	Lit. Missouri	.02	T.			.03					T.	.01	T.	T.		.55	T.	.50	.80	.02		T.	T.				.09	T.					2.02
Marstonmoor	James	T.	T.			T.	.15	.20					T.	T.		T.	.90	.06	T.								.05	.50	.60	.60			3.06
Mayville	Red						.30	.15									.17	.10										.25	.95	.70			2.62
Melville	James						.20	.10						T.			.92	T.	T.									*	1.22				2.44
Milnor	Red						.27									.20	T.	T.									.30	.15	.77	.44			2.13
Minot ‖	Mouse						.10	.21									.25	1.60	.05	.04													2.25
Minto	Red						.60										.29										.09	.14	1.40	.11			2.63
Mott	Cannon Ball					.10	.66						T.	.12		.47	.46	.43	.34	.04			.03					.01					2.66
Napoleon ‖	Missouri						.15	.25						.03	T.		.25	1.02	.10					T.					.90	.60			3.30
New England	Cannon Ball						.20							T.	T.	.12	.63	.28	.34	.08	T.			.10				T.	.05				1.80
New Salem	Heart					.12	.24						T.		.05	.33	.95	.46	.03	T.			.08	.02				.09	.12				2.49
Orange	Cannon Ball					.15										.31	.11	.77	.07									.11					1.52
Park River	Red						.10										.12	.11	T.								.24	.15	1.27	.05			2.04
Parshall	Missouri						.75									.07	.90	.60		.24														2.56
Pembina ‖	Red							.28							T.		T.	.02					T.						T.	1.00			1.30
Powers Lake	Missouri						.50						.14			.30	.50	.70	.12	.04														2.30
Sanish	Missouri							.20								.38	.64	.35				T.												1.57
Searing	Lit. Missouri																																
Steele	Missouri					.24	T.							T.	.14	.96	.01		.12		T.						T.	.32	.34				2.13
Taylor	Heart						.28					T.			.10	.49	.66	.53	.15	.07			.02	.08				.02					2.40
Towner	Mouse					T.	.12							T.			.15	.11											.53				0.91
Valley City	Sheyenne						.32	T.								.05	.64	T.	.01								T.	.12	.17				1.31
Wahpeton ‖	Red						.19	.40										.06										.39	1.63	1.02			3.69
Walhalla	Pembina						.51	.04							T.		.24	.03									.25	.40	1.16	.18			2.81
Washburn	Missouri						.20									.15	.90	.37	.05									.20	.10				1.97
Westhope	Mouse					.03	.18										.32	.35								T.							0.88
Williston ***	Missouri		T.				.02				T.	T.				.36	1.15	.53		T.		T.	.08			.08		T.					2.22
Willow City	Mouse					.07	.37									T.	.38	.31	.02									T.					1.15
Zap	Knife					.02	.20								.01	.15	.94	.46	.04				.03					.04					1.89
Moorhead, Minn ***	Red					.08	.30	.10								T.	.02		.02								.02	.23	1.72	.14			2.63

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	58	38	50	57	58	48	37	46	63	65	71	70	73	73	67	58	59	54	57	65	66	53	52	65	72	41	43	43	52	62	....	57.2
	Minimum	29	12	11	14	19	26	27	13	13	25	34	24	25	36	43	44	27	29	23	19	20	21	12	15	24	32	31	32	35	28	....	24.8
Ashley	Maximum	53	43	43	51	46	37	36	45	64	65	68	66	69	65	61	46	42	40	50	58	56	54	49	64	70	60	35	34	59	59	....	52.9
	Minimum	28	14	15	14	26	30	19	12	27	36	33	32	42	37	44	36	32	33	28	22	29	26	16	26	34	28	29	30	32	24	....	27.8
Beach	Maximum	31	30	43	44	45	48	37	65	72	68	68	70	75	60	46	44	35	36	38	40	51	38	48	49	50	48	48	61	63	65	....	50.5
	Minimum	14	15	13	13	25	26	28	28	42	42	43	39	37	40	34	31	30	28	28	26	30	31	15	18	20	24	30	41	40	44	....	29.1
Berthold Agency	Maximum	51	38	48	56	44	40	40	53	52	71	..	73	78	75	65	51	45	..	50	55	56	47	49	71	61	49	48	59	59	74	....	[b]56.4
	Minimum	22	12	9	14	25	31	12	18	30	45	..	43	38	45	47	33	33	..	34	26	31	26	19	26	30	27	31	34	33	26	....	[b]28.6
Bismarck	Maximum	49	36	44	52	41	36	39	51	69	67	72	70	72	69	55	48	44	45	55	56	56	49	49	68	72	47	36	41	54	66	....	53.6
	Minimum	26	16	18	19	33	30	22	21	34	44	43	43	50	46	48	35	33	35	37	31	32	30	21	31	34	30	31	32	35	29	....	32.3
Bottineau §§	Maximum	44	37	46	55	47	36	35	48	69	70	61	68	75	72	67	50	58	55	57	58	55	48	50	71	42	48	47	50	57	69	....	54.9
	Minimum	26	12	9	12	18	28	17	16	16	29	40	41	42	46	46	35	34	34	33	25	27	21	13	15	27	25	25	28	31	27	....	26.6
Bowbells §§	Maximum	44	33	43	52	42	40	42	46	70	71	56	65	74	70	56	41	52	44	46	55	49	42	46	65	50	43	43	57	56	71	....	52.1
	Minimum	24	10	9	11	21	25	13	18	20	32	32	32	36	55	46	41	37	33	31	28	28	20	17	18	31	14	18	27	28	28	....	26.1
Cando	Maximum	63	32	..	55	55	50	44	40	65	63	..	..	..	..	74	58	57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	[r]65.6
	Minimum	26	13	..	15	20	32	18	6	26	38	..	..	..	..	49	43	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	[r]27.0
Carson	Maximum	50	35	40	48	38	32	36	..	57	65	70	66	75	65	60	45	39	40	50	64	52	50	46	50	70	50	40	40	45	50	....	[a]51.3
	Minimum	23	13	15	20	26	32	10	..	30	40	38	42	45	55	44	36	30	34	33	26	32	24	16	39	35	25	28	30	32	32	....	[a]30.2
Crosby	Maximum	40	33	40	49	49	44	40	54	72	68	59	68	72	65	60	39	49	..	..	..	53	..	44	65	53	42	41	..	..	70	....	[f]52.9
	Minimum	22	14	15	21	28	33	17	24	33	42	33	38	42	42	38	35	34	..	..	..	28	..	20	29	29	13	29	..	..	29	....	[f]28.7
Devils Lake	Maximum	44	34	44	54	51	35	29	43	64	63	70	68	73	71	67	48	57	53	53	58	58	47	47	66	61	42	33	42	50	61	....	52.9
	Minimum	17	14	15	24	32	25	17	14	31	41	44	39	48	45	44	36	33	32	26	28	31	22	15	32	31	27	29	32	33	31	....	29.6
Dickinson	Maximum	44	33	41	46	45	41	37	55	70	68	68	66	74	68	48	37	39	39	39	51	52	52	48	68	55	42	36	55	56	72	....	51.5
	Minimum	25	14	14	13	23	32	20	23	31	43	45	45	38	45	48	36	32	35	32	27	29	27	22	28	28	26	29	30	31	25	....	29.9
Donnybrook	Maximum	46	36	45	53	48	40	58	49	71	73	68	70	76	71	63	49	50	47	58	55	53	47	46	70	64	44	44	53	57	71	....	55.9
	Minimum	28	13	14	18	26	32	17	20	36	45	38	30	41	49	49	40	36	37	35	41	40	30	26	33	30	22	24	31	32	31	....	31.5
Dunseith	Maximum	47	33	44	53	51	37	31	39	66	67	65	67	71	69	65	57	57	56	55	57	55	46	46	71	69	45	44	45	53	66	....	54.2
	Minimum	29	12	2	14	28	28	18	12	16	39	37	37	42	43	45	42	34	32	32	28	34	20	9	24	37	23	24	21	30	25	....	27.0
Edgeley	Maximum	56	44	44	53	50	39	39	45	64	66	67	69	72	69	65	49	50	48	50	60	62	57	49	65	72	71	34	38	52	61	....	55.3
	Minimum	26	11	13	14	28	31	21	12	23	35	33	21	42	35	46	38	30	33	28	25	30	27	15	26	35	29	30	31	33	26	....	27.6
Ellendale	Maximum	54	38	44	51	49	40	38	46	62	64	66	67	72	67	61	51	48	46	49	57	62	52	48	63	70	40	33	40	50	58	....	52.9
	Minimum	23	15	16	20	37	32	23	15	28	37	34	25	46	41	47	33	31	33	27	27	34	30	18	22	37	31	32	33	33	30	....	29.3
Fessenden §§	Maximum	49	36	45	53	49	37	34	48	67	65	71	68	74	70	66	48	53	52	54	59	55	47	50	67	66	45	41	39	50	61	....	54.0
	Minimum	23	12	11	10	17	24	18	14	14	30	44	33	35	41	43	44	34	32	26	25	27	22	12	15	29	25	25	31	30	31	....	25.6
Forman	Maximum	55	52	46	60	58	45	39	53	66	68	73	74	76	75	68	57	61	54	58	64	64	59	50	68	..	60	36	43	53	64	....	[a]58.5
	Minimum	34	15	18	18	35	34	25	16	29	46	39	62	45	34	45	44	31	35	24	21	27	29	17	23	..	32	32	32	34	28	....	[a]31.0
Fullerton	Maximum	38	35	43	52	51	39	36	46	62	65	67	68	73	68	63	51	51	48	48	57	61	52	49	63	71	60	34	41	49	59	....	53.3
	Minimum	25	14	15	18	27	31	22	15	26	37	34	25	45	49	47	37	31	32	27	26	31	28	27	24	37	30	32	31	33	29	....	29.5
Garrison	Maximum	50	35	45	50	42	35	32	49	62	65	68	67	73	69	62	46	45	45	55	56	52	45	49	68	58	46	44	51	55	68	....	52.9
	Minimum	26	12	11	14	26	29	19	19	29	42	41	43	42	44	46	33	32	34	34	28	34	25	16	28	30	25	29	30	30	30	....	29.4
Grafton §§	Maximum	40	36	47	48	61	35	30	38	62	64	69	69	73	74	71	49	63	55	55	63	64	46	48	67	64	37	40	45	52	64	....	54.3
	Minimum	26	15	9	9	19	30	20	10	15	27	37	28	34	40	37	41	31	32	19	21	29	23	14	20	34	29	28	30	32	25	....	25.5
Grand Forks	Maximum	40	36	46	56	58	40	30	38	60	62	70	67	72	71	69	57	62	52	53	62	64	45	47	65	69	41	42	46	52	62	....	54.5
	Minimum	18	15	13	16	26	30	20	13	28	37	40	29	42	42	43	43	34	34	25	24	30	23	14	26	39	32	33	40	33	29	....	29.0
Granville	Maximum	47	38	40	54	45	35	37	45	55	70	60	68	78	74	65	49	54	49	58	56	59	49	50	70	57	49	45	49	56	70	....	54.5
	Minimum	20	12	20	18	23	28	20	18	22	45	40	38	48	45	45	45	35	34	35	30	35	24	15	25	33	25	30	35	31	29	....	30.1
Hannah	Maximum	37	36	40	56	51	38	36	38	40	56	61	68	72	66	61	56	54	62	57	60	48	42	47	65	52	47	48	47	50	62	....	51.8
	Minimum	18	11	9	18	26	31	15	11	20	31	38	41	48	47	38	40	38	34	20	23	24	19	9	23	30	15	21	29	28	27	....	26.2
Hansboro	Maximum	45	31	45	55	52	47	30	36	62	67	63	69	73	71	68	57	57	55	56	..	..	..	52	69	67	44	45	42	..	..	..	[e]54.2
	Minimum	18	10	9	12	23	30	16	3	24	31	35	37	46	45	47	42	34	18	30	..	..	..	12	22	29	22	19	30	..	..	..	[e]25.8
Hettinger	Maximum	54	32	39	40	43	44	44	60	68	68	72	68	75	64	58	62	54	41	44	55	54	55	59	59	59	55	39	54	55	58	....	54.3
	Minimum	24	15	17	20	27	30	17	28	32	44	41	46	44	44	44	44	33	32	32	31	30	31	25	21	29	33	24	29	30	29	33	30.5
Howard	Maximum	46	34	43	51	46	46	46	58	76	73	62	68	76	70	62	50	48	42	46	54	50	44	48	72	58	40	40	40	58	65	....	53.7
	Minimum	20	12	13	18	25	32	10	10	30	38	37	40	33	48	45	30	30	30	30	24	31	23	15	30	27	16	24	24	25	30	....	26.7
Jamestown §§	Maximum	53	36	45	55	53	40	34	46	65	66	70	70	67	71	63	48	53	50	52	60	59	46	42	59	66	43	33	35	44	54	....	52.6
	Minimum	29	14	13	16	18	27	22	16	16	28	37	31	30	41	47	47	32	35	29	28	28	16	15	18	33	30	30	31	32	30	....	27.3
Lakota	Maximum	45	34	44	54	54	50	35	40	58	63	65	68	72	70	68	58	57	47	52	59	60	40	48	60	65	50	40	42	50	60	....	53.6
	Minimum	26	8	9	10	21	31	10	11	29	30	34	35	34	46	39	40	32	21	31	22	32	11	20	29	31	26	29	29	32	24	....	26.1
Lamoine	Maximum	48	34	44	52	43	34	40	67	64	71	67	68	68	70	70	65	47	46	46	52	56	53	48	68	48	41	32	42	47	67	....	53.3
	Minimum	21	10	9	13	22	16	14	29	38	40	37	36	35	40	42	42	31	34	29	27	22	29	17	22	23	25	25	29	29	25	....	27.1
Langdon	Maximum	34	32	44	54	55	35	28	36	60	60	65	67	71	70	66	53	60	45	53	59	57	41	47	65	46	40	36	42	48	61	....	51.0
	Minimum	25	12	10	18	18	28	13	3	5	29	36	36	38	43	41	38	33	30	25	24	25	20	11	15	26	25	23	25	30	25	....	24.3
Larimore §§	Maximum	47	34	46	56	57	37	30	40	61	64	70	67	70	71	71	50	57	50	50	64	64	46	47	65	67	35	38	43	50	60	....	53.6
	Minimum	30	15	12	24	30	32	20	12	26	36	40	30	40	36	46	46	31	30	22	22	31	22	14	28	36	30	30	34	34	26	....	28.8
Lisbon §§	Maximum	67	36	44	57	53	44	37	45	47	67	70	71	70	73	64	62	56	51	53	64	58	53	49	63	72	48	44	40	52	62	....	55.7
	Minimum	36	12	12	15	18	30	17	12	16	29	34	22	26	40	36	47	29	33	20	19	26	24	13	20	30	32	30	32	31	25	....	25.5
McHenry	Maximum	50	37	47	55	54	37	33	44	64	55	70	70	74	72	67	49	55	55	49	60	59	48	55	65	70	45	56	40	55	62	....	55.1
	Minimum	23	13	13	18	27	31	20	13	27	40	39	38	40	32	35	37	31	32	25	30	30	21	10	23	35	27	34	30	47	27	....	28.3
McKinney	Maximum	56	40	46	55	55	42	40	54	76	75	65	70	77	74	70	53	55	55	56	60	60	50	52	74	66	47	47	61	60	73	....	58.7
	Minimum	26	10	11	20	25	30	18	18	32	40	25	40	32	63	46	45	36	35	40	28	32	20	13	30	34	21	28	35	30	29	....	29.6
Maddock	Maximum	48	35	43	52	52	48	35	44	65	65	70	68	73	71	68	55	56	57	55	56	56	57	48	68	67	49	58	36	50	61	....	55.5
	Minimum	36	12	13	19	25	31	16	14	28	41	40	35	46	40	44	44	33	32	28	25	35	20	12	27	36	26	26	32	32	29	....	29.3
Marmarth	Maximum	54	34	37	40	40	46	43	59	58	68	67	67	72	66	50	45	34	32	34	43	49	45	55	65	56	36	34	34	54	70	....	49.9
	Minimum	24	13	16	16	22	26	10	18	28	29	45	42	34	35	30	31	29	29	27	25	23	25	20	32	32	25	25	28	27	24	....	26.3
Minot §§	Maximum	44	34	42	48	36	35	34	47	65	68	64	69	70	62	70	39	55	44	45	55	54	43	46	66	45	42	44	40	50	70	....	50.5
	Minimum	23	10	11	13	18	25	17	16	17	31	36	41	39	40	46	42	32	36	34	26	30	21	13	14	32	21	26	28	30	26	....	26.5
Mott	Maximum	43	36	37	38	41	35	44	52	72	73	70	69	76	65	48	45	35	37	38	51	44	43	46	64	60	37	39	56	52	66	....	50.4
	Minimum	33	14	10	12	26	27	14	18	30	40	44	41	47	43	44	33	29	30	30	30	28	22	17	28	29	27	28	30	28	25	....	28.6
Napoleon §§	Maximum	53	35	45	53	46	37	38	48	65	68	71	68	72	68	58	48	45	43	52	58	57	52	50	66	76	40	33	37	49	61	....	53.1
	Minimum	24	13	11	12	14	24	16	11	26	32	38	35	35	37	40	45	33	31	28	24	25	24	13	25	33	30	22	28	30	26	....	26.2
New Salem	Maximum	50	44	45	50	45	37	34	51	70	57	71	65	58	55	59	45	39	39	48	59	52	48	56	67	58	47	42	43	54	57	....	51.5
	Minimum	24	10	10	16	27	26	17	11	27	39	37	43	42	40	43	30	29	30	31	27	28	26	16	27	38	24	28	28	28	29	....	27.7
Orange	Maximum	56	42	40	46	37	36	37	54	68	66	70	67	73	65	61	49	46	39	44	53	53	51	48	66	72	49	40	50	54	68	....	53.3
	Minimum	25	15	16	15	21	27	17	19	31	43	32	40	45	43	44	27	31	33	32	29	27	25	17	28	32	26	29	30	35	23	....	28.7
Park River	Maximum	46	35	47	56	59	54	..	..	64	64	65	70	74	75	72	66	62	64	55	61	61	60	54	65	66	52	38	42	51	62	....	[b]58.6
	Minimum	28	16	13	24	31	32	..	..	12	40	38	33	37	35	36	45	32	32	23	28	37	25	15	31	41	27	30	36	33	28	....	[b]29.9
Pembina §§	Maximum	33	34	48	58	57	42	42	40	54	61	64	67	68	72	72	52	61	56	58	64	57	39	48	71	51	43	42	45	54	62	....	53.9
	Minimum	31	18	17	21	27	42	18	14	27	38	46	35	48	42	45	48	37	36	28	27	39	26	16	33	43	33	32	33	34	32	....	31.9
Steele	Maximum	53	42	43	54	52	43	43	47	67	67	70	72	68	66	67	59	48	46	56	55	60	56	49	56	72	56	41	34	54	51	....	51.9
	Minimum	40	15	16	16	34	28	16	16	38	34	40	43	40	40	44	47	38	35	30	30	35	28	18	16	33	30	28	28	33	35	....	30.5
Towner	Maximum	46	40	45	55	58	46	42	45	70	68	70	70	78	74	68	53	56	58	59	57	57	48	52	73	72	48	46	45	56	66	....	57.4
	Minimum	25	12	4	19	25	32	21	18	31	43	39	36	45	44	47	45	37	38	26	26	34	20	12	25	30	28	27	32	33	29	....	29.4
Valley City	Maximum	50	48	45	55	54	51	34	42	61	64	68	66	73	69	69	50	55	55	50	68	56	56	48	63	70	69	36	42	51	58	....	55.9
	Minimum	27	11	16	19	31	31	21	13	25	35	40	35	41	37	39	45	32	33	23	28	27	22	13	30	35	28	30	32	33	22	....	28.5
Wahpeton §§	Maximum	58	40	47	56	55	41	38	46	60	62	68	70	70	71	64	53	59	60	52	61	67	52	54	65	70	39	44	48	52	60	....	56.1
	Minimum	36	15	15	18	26	32	25	14	21	27	33	33	32	32	40	50	29	39	24	16	21	24	12	14	30	34	33	33	36	27	....	27.4
Washburn	Maximum	52	42	47	53	50	43	39	51	67	78	71	67	71	65	65	49	45	44	54	55	54	54	48	68	65	50	43	42	56	67	....	55.2
	Minimum	26	11	15	18	32	30	20	34	34	43	34	43	46	46	46	34	32	34	36	29	33	26	19	41	29	28	31	31	33	29	....	31.4
Westhope	Maximum	47	46	46	55	46	40	39	50	70	74	70	69	74	73	69	59	56	54	55	57	55	49	51	71	69	47	46	55	58	70	....	57.3
	Minimum	26	17	11	17	27	30	17	16	29	41	34	34	42	44	48	46	36	34	35	27	34	18	14	24	31	22	25	35	30	26	....	29.0
Williston	Maximum	43	34	44	49	48	46	46	50	74	70	59	65	75	69	55	39	46	45	42	53	40	44	43	68	47	40	44	58	56	75	....	52.9
	Minimum	22	18	14	20	30	29	17	25	37	45	56	45	38	52	39	33	32	34	32	28	33	28	22	33	30	23	30	34	31	38	....	30.9
Willow City	Maximum	43	34	43	53	51	33	32	45	66	66	60	66	72	69	65	49	55	53	55	56	52	44	48	69	41	46	45	41	53	65	....	52.3
	Minimum	26	10	10	14	26	32	19	16	26	40	36	41	46	46	48	44	35	34	35	26	34	20	13	22	27	26	26	28	29	22	....	28.5
Zap	Maximum	44	42	44	51	41	35	31	51	70	62	65	60	72	66	56	44	42	40	44	52	49	45	46	66	65	45	40	52	62	72	....	51.8
	Minimum	20	9	10	10	26	30	12	14	28	40	42	43	43	44	44	31	32	34	32	24	42	21	17	27	30	25	29	30	32	26	....	28.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO
RAIN
Scale of Shades.
0 to 2 inches
2 to 4 inches
4 to 6 inches
6 to 8 inches
Over 8 inches

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MAY, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JULY 8, 1918.

Departure of the Mean Temperature from the Normal, May, 1918.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., MAY, 1918. No. 5.

GENERAL SUMMARY.

Generally favorable weather conditions prevailed, and crop prospects at the close of the month were excellent. Except in the extreme northeast portion of the State, the rainfall was ample for all needs. Freezing temperatures did some damage to early sown grain and retarded germination and growth of others. Occasional high winds damaged corn on sandy soil, and cut worms towards the close of the month were reported as causing havoc to this crop, necessitating considerable replanting. Winter rye winterkilled considerably in the eastern part of the State, and in many places was plowed up and the soil put into other crops. Spring wheat stooled heavily and indications were for a heavy yield. Other small grains, hay and pastures indicated good yields.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 29.87 inches. The highest was 30.32 inches at Bismarck on the 28th; the lowest was 29.19 inches at Grand Forks on the 31st.

TEMPERATURE.

The mean temperature for the State was 51.7°, or 0.9° below the normal, and 0.5° higher than the mean for May, 1917. The highest mean reported was 57.1° at Forman, Sargent County; the lowest was 45.8° at Westhope, Bottineau County. The highest temperature reported was 99° at Colgate, Steele County, on the 5th; the lowest was 6° at Dunseith, Rolette County, on the 12th. The greatest daily range of temperature was 64° at Colgate, Steele County, on the 4th. The greatest monthly range of temperature was 86° at Dunseith, Rolette County; the least was 61° at New England, Hettinger County. Usually the highest temperature occurred on the 4th or 5th, and the lowest on the 12th.

HUMIDITY.

The average relative humidity, as determined from the reports of four recording stations, was 66 per cent, the average at 7 a. m. being 77 per cent, and at 7 p. m. 55 per cent.

PRECIPITATION.

The average precipitation for the State was 2.30 inches, or 0.25 inch below the normal, and 2.00 inches more than the average for May, 1917. The greatest monthly amount reported was 4.63 inches at Melville, Foster County; the least was 0.30 inch at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 2.50 inches at Forman, Sargent County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 9. Practically no precipitation occurred during the first five days, but scattered showers occurred during the remainder of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 12.2 miles. The greatest wind movement was 12,396 miles at Ellendale, an average of 16.7 miles per hour; the least was 7,431 miles at Moorhead, an average of 10.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 61 miles per hour from the southeast at Ellendale on the 18th.

SUNSHINE AND CLOUDINESS.

There was somewhat less than the usual sunshine; the average number of clear days was 10, partly cloudy days 11, and cloudy days 10.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	High-est.	Low-est.	Aver-age.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.08	+0.53	4	14	8	9	s.
1904...	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.

Climatological Data for May, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	50.7	−3.8	95	5	19	12	59	2.05	−1.04	0.60	0	8	6	14	11	n.	E. T. Carley.
Ashley	McIntosh	2,001	21	53.4	+0.6	88	5	22	12	48	2.35	−0.21	0.70	0	8	13	6	12	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	52.8	+2.7	93	4	13	29	57	1.31	−1.89	0.90	6.0	7	19	9	3	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	53.4	−0.9	93	4	19[a]	12	53[a]	1.46	−1.29	0.46	0	9	16	10	5	nw.	C. L. Hall.
Bierman	Slope	.....	2	52.5	.....	88	4	25	17	45	2.59	.....	0.65	2.0	12	13	5	13	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	54.2	−1.0	92	4	23	12	50	2.03	−0.47	0.77	T.	13	9	13	9	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	48.0	−3.2	93	4	10	12	52	1.93	−0.35	0.51	0	12	10	10	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	46.6	.....	91	4	21	9†	51	1.56	.....	0.44	.....	8	16	3	12	.....	G. H. Phelps.
Bowman	Bowman	.....	4	52.2	.....	89	4	21	22	53	1.77	.....	0.65	1.5	14	14	6	11	nw.	W. H. Workman.
Buford	Williams	1,944	39	53.6	−0.6	93	4	25	12	46	0.73	−1.70	0.55	T.	2	14	14	3	nw.	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	2.32	−0.23	0.97	0	5	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	53.6	.....	88	4	23	12	50	2.16	.....	0.53	1.0	12	9	18	4	nw.	J. W. Evens.
Colgate	Steele	1,177	4	53.4	.....	99	5	18	12	64	3.26	.....	1.65	0	9	11	12	8	nw.	S. N. Grimwood.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	2.50	+0.31	1.05	0	7	14	12	5	nw.	S. Friswold.
Crosby	Divide	1,954	11	49.2	−0.9	84	3	21	12	43	1.89	−0.38	1.05	1.0	10	11	9	11	nw.	B. Lancaster.
Devils Lake	Ramsey	1,478	14	48.9	−3.8	90	4	15	12	49	3.69	+1.49	1.63	T.	12	9	6	16	n.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	52.4	−0.2	91	4	22	17	49	1.67	−0.91	0.90	2.0	9	9	8	14	w.	J. C. Thysell.
Donnybrook	Ward	1,760	19	50.9	+1.0	92	4	16	12	49	0.97	−1.60	0.52	0	5	1	24	6	nw.	Geo. Michel.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	1.43	.....	0.70	T.	8	18	6	7	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	48.3	−4.1	92	4	6	12	52	2.65	+0.96	0.93	1.0	12	6	9	16	sw.	J. G. Lamont.
Eckman	Bottineau	.....	13	49.4	−1.2	94	4	12	12	49	2.01	−0.41	0.68	T.	9	6	15	10	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	54.6	+1.1	90[a]	4†	20	12	55[a]	1.25	−1.56	0.27	0	8	2	15	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	53.6	.....	88	5	24	12	50	3.27	.....	1.42	0	12	7	10	14	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	1.96	.....	0.70	.....	10	0	23	8	se.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.34	0	5	13	14	4	nw.	M. E. Uggen.
Fessenden	Wells	1,610	6	47.9	.....	91	4	15	12	56	2.90	.....	1.12	0	13	17	3	11	nw	G. T. Seymour.
Forman	Sargent	1,249	26	57.1	+1.6	94	5	24	12	50	4.39	+1.49	2.50	0	9	12	12	7	nw.	A. Maltby.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	1.92	.....	0.84	3.0	9	12	15	4	w.	Verne King.
Fullerton	Dickey	1,439	20	54.7	+1.2	89	5	23	12	50	2.12	−1.09	0.78	0	6	10	8	13	nw.	F. O. Alin.
Garrison	McLean	1,901	23	51.4	−1.6	91	4	18	12	46	3.89	+1.53	1.17	0	9	6	14	11	nw.	G. L. Robinson.
Grafton	Walsh	827	26	49.0	−4.2	92	4	16	12	62	1.69	−0.54	0.37	1.0	12	13	13	5	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	51.8	−1.9	94	5	19	12	55	3.20	+0.64	1.19	0	12	13	14	4	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	54.2	.....	92	5	20	12	57	1.58	.....	0.34	0	8	15	5	11	s.	G. H. Leick.
Granville	McHenry	1,504	11	50.1	−1.3	86	4	13	14	44	1.59	−0.44	0.45	T.	7	6	13	12	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	48.2	−0.7	91	4	9	12	44	3.03	+0.44	1.48	2.0	7	7	9	15	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	47.7	.....	92	4	10[a]	12	55[a]	2.20	.....	1.00	T.	8	4	22	5	n.	C. E. Blackorby.
Hettinger	Adams	2,253	10	56.0	+2.9	86	3	24	2	56	1.38	−0.96	0.29	0	12	15	9	7	nw.	U. J. Downey.
Hillsboro	Traill	901	12	54.2[b]	+1.0	93[d]	5	17	12	53[d]	2.69	−1.18	0.86	0	10	7	20	4	se.	F. E. Mayall.
Howard	Williams	2,275	11	49.3	−0.1	90	4	17	12	47	3.84	+1.50	2.40	4.4	5	7	9	15	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	50.0	−3.6	90	5	20	12	49	2.36	−0.50	0.55	T.	11	10	11	10	n.	S. Calvelage.
Lakota	Nelson	1,579	17	47.8[d]	−2.3	89	5	15[d]	11	46[d]	2.04	−0.16	1.30	T.	9	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	49.8	−0.9	92	4	13	12	53	3.76	+1.41	0.96	.....	8	9	11	11	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	22	46.1	−4.7	90	4	13	12	53	1.52	−0.61	0.60	T.	8	10	10	11	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	50.4	+2.3	96	5	17	12	59	2.05	−0.33	0.73	T.	9	7	13	11	n.	G. G. Graham.
Linton	Emmons	1,711	.....	51.2[b]	.....	88[b]	15	16[b]	12	49	2.80	.....	0.80	T.	7	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	53.6	+0.7	92	4	24	10	58	2.04	−1.41	0.52	0	8	8	8	15	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	2.44	.....	0.90	0	11	10	11	10	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	50.0	.....	93	5	13	12	58	3.85	.....	1.93	1.0	7	15	5	11	ne.	P. E. Trudeau.
McKinney	Renville	1,640	24	52.8	+0.7	98	4	14	12	59	1.59	−0.59	0.35	T.	7	4	16	11	se.	N. P. Swenson.
McLeod	Ransom	1,075	6	55.8	.....	93	5	21	12	53	4.32	.....	1.57	0	10	9	16	6	nw.	R. D. Markland.
Maddock	Benson	1,604	3	51.2	.....	90	4†	11	12	51	3.62	.....	1.30	0	11	5	10	16	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	52.4	.....	91	4	23	12	52	1.69	.....	0.59	.....	12	8	13	10	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	52.2	+0.5	90	4	22	12	48	2.94	+0.42	0.80	0	13	9	12	10	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	51.2[a]	.....	88[a]	4	23[a]	17	46[b]	1.83	.....	0.76	3.7	12	8	10	13	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	51.2	.....	91	3	15	12	54	2.95	.....	0.84	1.0	8	.....	.....	.....	nw.	H. H. McCumber.
Mayville	Traill	975	22	54.2	−0.9	96	5	18	12	55	1.71	−1.24	0.40	0	11	15	5	11	sw.	W. C. Gould.
Melville	Foster	1,590	20	56.5[j]	+3.8	90[j]	15	16[j]	12	60[j]	4.63	+2.03	1.89	0.2	9	.....	.....	.....	.....	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	3.92	.....	2.40	0	8	13	7	11	n.	Hj. Edman.
Minot	Ward	1,557	22	48.0	−4.3	92	4	14	12	56	1.61	−0.50	0.45	0	6	8	14	9	se.	W. I. Faris.
Minto	Walsh	820	25	52.6[c]	−0.8	94	5	17[f]	12	59[f]	1.25	−1.24	0.31	T.	12	11	8	12	n.	C. M. Evans.
Mott	Hettinger	2,424	11	52.8	+1.5	86	4	23	22	44	1.94	−0.61	0.61	0	11	7	10	14	se.	O. H. Opland.
Napoleon	Logan	1,955	26	52.4	−0.4	92	5	17	12	50	1.40	−1.06	0.50	1.0	10	11	5	15	sw.	C. J. Hoof.
New England	Hettinger	2,400	24	51.5	+0.1	88	4	27	17	46	1.65	−0.60	0.56	T.	12	17	4	10	nw.	J. M. Connolly.
New Salem	Morton	2,163	13	51.4	0.0	90	4	19	12	58	2.20	−0.40	0.52	0.5	11	15	10	6	sw.	J. Christiansen.
Orange ††	Adams	2,586	9	54.2	.....	90	4	23	22	52	2.94	.....	0.82	0	9	1	15	15	ne.	T. F. Young.
Park River	Walsh	998	14	52.0[a]	−0.2	91	4	17	12	55	3.16	+0.78	1.84	1.5	11	.....	.....	.....	nw.	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	1.38	.....	0.55	0	5	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	51.5	−0.9	94	4	18	12	55	0.30	−2.33	0.20	0	5	15	9	7	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.30	0	3	11	8	12	w.	C. Frank.
Sanish	Mountrail	2,260	4	55.2[a]	.....	91[a]	4	25[a]	12	47[a]	0.78	.....	0.25	0	4	.....	.....	.....	nw.	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	53.8	−0.1	90	4†	28	11	48	3.29	+0.90	0.83	2.5	12	9	20	2	sw.	H. S. Wood.
Taylor	Stark	2,493	2	51.5	.....	88	4	25	17	48	2.23	.....	0.80	T.	9	1	25	5	sw.	H. Leutz.
Towner	McHenry	1,482	16	51.4	−0.7	93	4	15	12	51	1.53	−1.26	0.72	T.	9	9	11	11	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	53.0	.....	91	5	18	12	51	4.21	.....	1.86	0	11	9	10	12	e.	C. G. Carlson.
Wahpeton	Richland	962	24	54.1	−1.7	90	5	21	12	50	3.82	+1.02	2.00	0	10	13	10	8	ne.	F. E. Smith.
Walhalla	Pembina	966	11	49.0	−1.1	93	4	15	12	57	3.39	+0.54	1.91	0	10	8	16	7	w.	Ivan Lee.
Washburn	McLean	1,734	19	55.0	+1.2	93	4	19	11	50	1.93	−0.49	0.50	.....	7	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	45.8[a]	−5.6	94[a]	4	16[a]	12	54[a]	2.33	+0.09	0.59	0	8	13	10	8	sw.	W. A. Meddaugh.
Williston	Williams	1,875	39	51.5	−2.8	91	4	24	12	40	1.04	−1.22	0.37	T.	5	6	16	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	48.0	−3.9	92	4	13	12	54	2.25	+0.25	0.87	2.0	6	6	16	9	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	50.8	.....	91	4	19	12	49	2.03	.....	0.83	0	11	6	10	15	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	55.2	+0.4	95	5	20	12	48	2.73	−0.22	1.01	0	12	12	9	10	n.	U. S. Weather Bureau.
Averages				51.7	−0.9	99	5	6	12	64	2.30	−0.25	2.50	0.5	9	10	11	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for May, 1918.

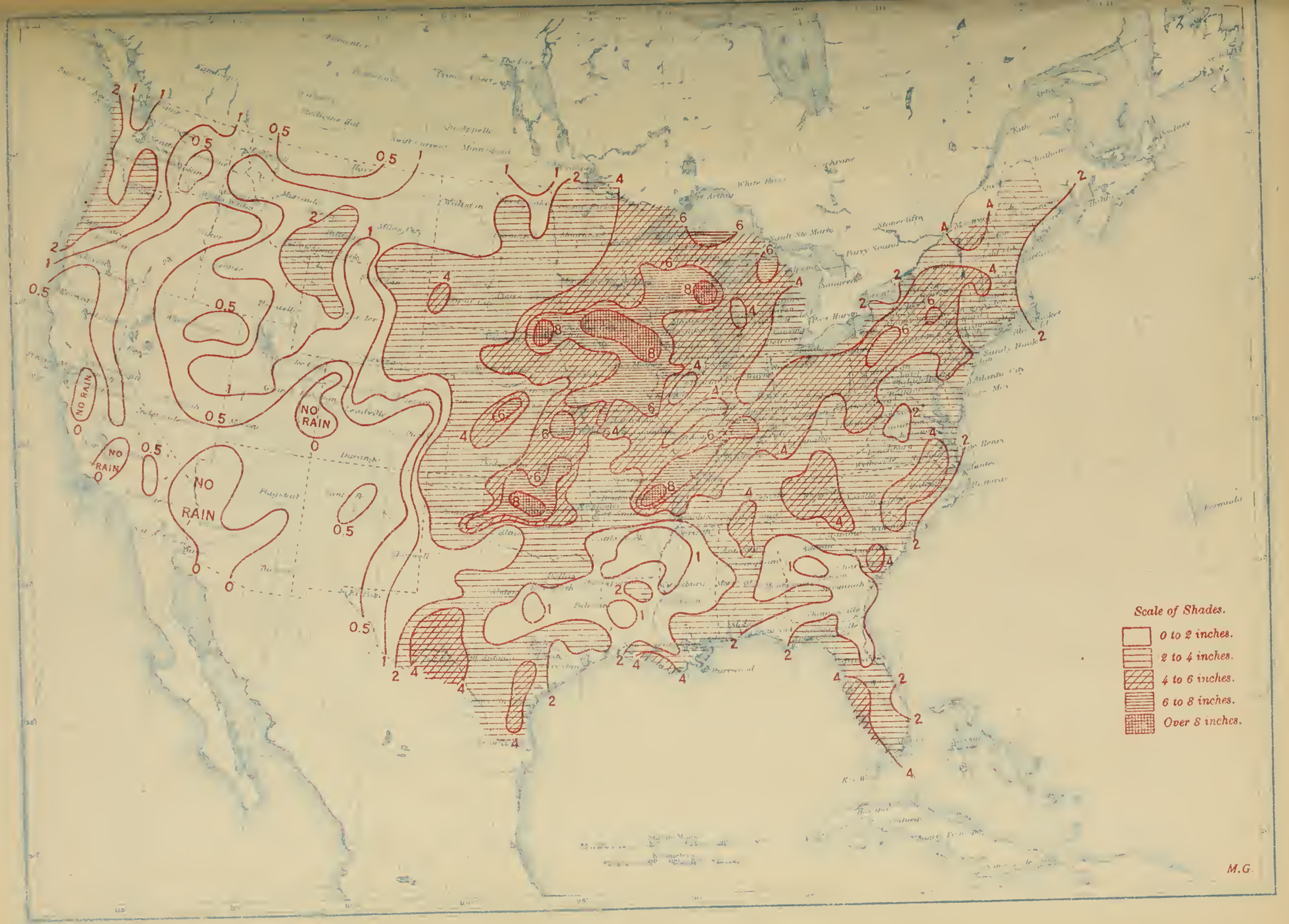
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red		T.							T.										.45	.03	.05	.38		T.	.60	.35	.17			.02	T.	2.05
Ashley	Missouri						T.			T.									.20	.10	.09	T.			.33	.64	.08		.21	T.	.70	2.35
Beach	Lit. Missouri									.10										.05	.02		.20		.03	.90	.01						1.31
Berthold Agency	Missouri						.01	.10	T.		T.	T.				.10	T.		.19		T.	.22		T.	.17	.46		.03		.18		T.	1.46
Bierman	Lit. Missouri						.12			.15		T.				.03		.45	.10	.05		T.			.15	.65	.30	.04		.37		.18	2.59
Bismarck ***	Missouri	T.					.05	T.	T.			T.			.03	.01	.01		.31	T.	.03	.09	T.	.01	.12	.31	.20			.09	T.	.77	2.03
Bottineau ‖ ‖	Mouse						T.	.30	.01							.02	.14			.41		.10	.51	.23	.03	.02	.15	.01					1.93
Bowbells ‖ ‖	Mouse						.20	.23							.16					.44		.08	.09		.13		.23						1.56
Bowman	Grand						.07			.19	T.	T.	.01		.02	.01	.12		.02	.02		.04			.02		.65	.10		.39	T.	.11	1.77
Buford	Missouri								T.			T.					T.		T.		T.	.55	T.		T.	.18						T.	0.73
Cando	Sheyenne																			.39	.27		.07			.62						.97	2.32
Carson	Heart	T.					T.	T.	T.				.04		.09	.12	.13		.53	.02	.03	.09		T.		.30	.12			.20		.49	2.16
Colgate	Sheyenne						.14		T.						T.	.04				.25		.15		.25	1.65		.35	.08		T.	T.	.35	3.26
Cooperstown	Sheyenne						.40												.40		.10			.20	.25	.10						1.05	2.50
Crosby	Mouse						.38	.05			.02		.02			.08			.15		1.05	.08	.03		.03	T.						T.	1.89
Devils Lake ***	Sheyenne						.12	T.	.01		.05	.01			.01	T.			.58		T.	.08		.33	.50	.40	T.			T.	.05	1.55	3.69
Dickinson ‖ ‖	Heart	T.					T.	.09		T.			T.				.03	T.	.08	T.		.13	.04	T.	.04	T.	.90	.09	T.	.27			1.67
Donnybrook	Mouse																		.10			.20		.52	*	.15							0.97
Dunn Center	Knife						.02			.01						T.			.10		.20				.10	.70		.07		.23			1.43
Dunseith	Mouse						.33		T.			.03			.05		.12		.36	.05	T.	.93	.03	.27	.16	.22						.10	2.65
Eckman	Mouse						.31				T.				.13	.12			.68		T.	.51		.08	T.	.15	.02					.01	2.01
Edgeley	James						.02													.24	.06					.26		.21	.27	.03	.16	1.25
Ellendale	James	T.					.24			.11		T.			T.				.24	.18	.03	.09		.03	T.	.51	.17			.17	.08	1.42	3.27
Energy	Missouri	T.					.24		T.		T.				T.	.16	T.		.23		T.	.18	.02	.02	.10	.70	T.			.25	T.	.06	1.96
Epping	Missouri							.30			T.									.05	.30				.08	.34							1.07
Fessenden ‖ ‖	James		T.					.18	.02	T.		.03	T.			.10		T.	T.	1.12		.14	.35	T.	.08	.36	.33	.10			.02	.08	2.90
Forman	Sheyenne							.05												2.50		.25				.75	.10	.33		.03	.35	.03	4.39
Fryburg	Lit. Missouri						.09			.07							T.	.19				.19			.06	.84	.08	.04		.36		T.	1.92
Fullerton	James						T.												.44	.20	T.	.20			T.	T.	.78			.20		.30	2.12
Garrison	Missouri															.39			1.17		.05	.16	T.	.70	.58	.55			.27		.02	3.89
Grafton ‖ ‖	Red					.07		.20	.37			.02	.11		T.	.12				.15			.11		.04	.20	.27	.03					1.69
Grand Forks	Red	T.				.18	.33	.18	T.			.12			.01				.31	T.	T.			.06	.34	.28	.13			T.	.07	1.19	3.20
Grand Rapids	James						T.												.25	.12	.10	.18		.09		T.	.34	.25		.25			1.58
Granville	Mouse				T.		.14					T.			T.	.17			.41		T.	.45	T.	.05	.02	.35					T.	1.59
Hannah	Pembina							.09			T.	T.			.20				.69			.30		.19	.08						1.48	3.03
Hansboro	Red						.10	T.				T.			.06		T.		.36		T.	1.00			.50	.12			T.	.02	.04	2.20
Hettinger	Grand						T.					.01			.02		.29	.01	.04	.02		.05			.18	.24	.22		.28		.02		1.38
Hillsboro	Red						.08					.04			T.				T.	.53		.31		.11	.86	.20	.29			.23	.04		2.69
Howard	Missouri						T.	2.40	T.		T.	T.		T.		T.	T.	T.	T.	T.	.20	.14			1.06	.10					T.	3.84
Jamestown ‖ ‖	James							.14								.38				.55		.08	.05	.07	.35	.18	.36	.15			.05		2.36
Lakota	Sheyenne	T.					.05					T.			T.	T.						.05	T.	T.	.20	.06	.14		.02	.20	.02	1.30	2.04
Lamoine	Missouri						.17								T.	T.			.90	T.	T.	.47	T.	T.	.60	*	.64			.02		.96	3.76
Langdon ‖	Pembina							.08	.05				T.	T.	T.	.10	T.			.60				.12		.29	.25				.03	T.	1.52
Larimore ‖	Red							.44				.04	.02			T.				.19			.11		.20	.20	.73					.12	2.05
Linton	Missouri					T.													.80			.20			.50	.60	.15		T.		.25	.50	2.80
Lisbon ‖	Sheyenne																T.			.52	.12	.38	.06		.09	.30	.38	.19			T.		2.04
McClusky	Missouri						.15				.06								.27		.03	.40			.11	.38	.05	.06		.03		.90	2.44
McHenry	James						.15					T.		T.					.75		.15			.12		.60	.15					1.93	3.85
McKinney	Mouse						.35	.13	T.		T.	T.			.30				.08		T.	.25	T.	.15		.33			T.				1.59
McLeod	Sheyenne											.03		T.					1.57	.80	T.	.50		T.		.73	.33	.12		.05	.16	.03	4.32
Maddock	Sheyenne						.13					.03			.07				.06	.69	.03	.60		.06	.21		.44					1.30	3.62
Mandan ‖	Missouri							.05								.05		.02	.06	.59		.04	.07		.09	.08	.34	.14		.16		T.	1.69
Manfred	Sheyenne						.12	T.							.16		.02		.66	.07	.02	.31		T.	.33	.29	.07	.03		.06		.80	2.94
Marmarth	Lit. Missouri						.02	T.		.20	T.	T.	.02		.02		.03	.01	.05		T.	T.			T.	.76	.29	.07	.01	.35			1.83
Marstonmoor	James					T.					T.	T.	T.		T.	.09			.50	T.	T.	.20	T.	.25	.57	.27	T.	.23		T.		.84	2.95
Mayville	Red						.21	.05				.07			.01				.25			.27		.12	.07	.40	.20	.06					1.71
Melville	James						.20					.10			T.			.38	.40					.38	.55	.15	.58				T.	1.80	4.63
Milnor	Red																		.08	2.40		.62			T.	.20	.20	T.		.06	.30	.05	3.92
Minot ‖	Mouse							.22				.01					.10		T.	.43		T.	.40				.45						1.61
Minto	Red						.04	.16				.05			.07					.16		.05		.04	.27	.01	.31				.04	.05	1.25
Mott	Cannon Ball						.04			.06					.18	.06	.21		.07			.03				.61	.22			.36		.10	1.94
Napoleon ‖	Missouri							.05								.13			.12	.50	.03	.13		.10		.05	.15	.14					1.40
New England	Cannon Ball							.10		.03							.13	.02	T.	.03		.10			.07	.15	.56	.10	.01	.35			1.65
New Salem	Heart						.10					.01			T.		.05	T.	.35	T.	.02	.14	T.		.16	.46	.21			.18		.52	2.20
Orange	Cannon Ball									.16							.13		.27					.82	.12	.34	.27			.14	.69		2.94
Park River	Red						T.	.03				.11			.18				T.	.28		.10		.09	.14	.05	.24				.05	1.84	3.16
Parshall	Missouri							.28							.12				.22			.21				.55						1.85
Pembina ‖	Red							.02	T.				T.							.02			.02		T.	.04	.20					0.30
Powers Lake	Missouri					T.	.30				T.								T.				.30	T.		.20			T.			0.80
Sanish	Missouri						.20		.18										T.			.15			T.	.25					T.	0.78
Searing	Lit. Missouri																															
Steele	Missouri						.04		T.				.04		.37				.42		.37		.03	.38	.10	.03	.20	.48		T.	T.	.83	3.29
Taylor	Heart							T.		T.					T.	T.	T.	.08	.80			.08			.10	.79	.08	.02		.26		.02	2.23
Towner	Mouse						.14	.01				.06			.02		.09			.29	T.	.72	T.		T.	.16	.04						1.53
Valley City	Sheyenne					.02	T.	.06	T.						T.				.84	T.	.06	.18		.09	.34	.52	.20			.04	T.	1.86	4.21
Wahpeton ‖	Red																	.13		2.00	T.	.40	.56		.03	.01	.11	.15			.41	.02	3.82
Walhalla	Pembina						T.		.12				.02							.65		.04	T.	.04	.15	.23	.02				.21	1.91	3.39
Washburn	Missouri														.20			.25							.50	.50	.05		.15			.28	1.93
Westhope	Mouse						.47	.03				T.					.59		.40			.48	.02		.30	.04							2.33
Williston ***	Missouri						.33		T.		T.	T.					T.		T.		.13	.26			T.	.31						.01	1.04
Willow City	Mouse						.07	T.				T.			.20	T.			.87		T.	.78	T.	.05	T.	.28					T.		2.25
Zap	Knife						.06					.04				.01			.45		.01	.15	T.		.07	.83	T.	.03		.29		.09	2.03
Moorhead, Minn ***	Red	.05					T.		T.										.97	.09	.04	.24		T.	.83	.02	.19	.02		.05	.06	.17	2.73

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	82	70	73	87	95	58	73	69	50	58	63	50	68	67	83	89	74	74	56	47	40	44	67	54	59	52	47	56	59	73	..	[a]64.5
	Minimum...	49	33	34	35	36	47	35	36	34	24	34	19	23	32	34	38	44	37	46	29	31	36	38	43	52	36	39	41	42	45	61	36.9
Ashley	Maximum...	78	75	81	86	88	75	71	74	56	56	62	54	67	78	83	81	72	70	53	52	57	65	60	75	62	44	51	58	61	77	70	67.5
	Minimum...	38	36	40	38	57	45	38	38	32	30	30	22	30	36	40	50	33	45	43	27	39	30	42	51	42	34	34	43	44	54	55	39.2
Beach	Maximum...	70	81	87	93	81	76	68	63	65	64	60	55	57	78	72	77	70	86	72	73	65	58	56	75	57	39	44	47	70	74	73	67.9
	Minimum...	44	53	65	68	60	43	40	38	39	39	38	33	37	38	38	40	33	21	32	33	40	40	38	44	18	24	20	19	13	38	40	37.6
Berthold Agency	Maximum...	81	83	78	93	87	67	70	70	57	59	61	55	70	76	80	77	73	79	64	52	53	70	81	78	61	45	50	59	66	83	77	69.5
	Minimum...	40	30	48	49	48	43	34	41	34	34	34	19	31	35	30	45	30	40	38	30	40	29	..	40	32	35	35	35	46	50	46	[a]37.4
Bismarck	Maximum...	80	79	79	92	87	63	72	70	53	57	61	54	70	80	84	74	69	76	55	48	59	65	71	67	55	44	50	56	64	83	66	67.2
	Minimum...	43	36	49	44	58	44	38	45	34	37	40	23	36	38	34	46	33	52	35	30	41	35	48	50	39	34	36	44	47	55	55	41.3
Bottineau §§	Maximum...	81	76	72	93	85	53	67	63	52	53	57	53	63	46	72	74	65	65	46	45	49	54	69	57	44	46	54	65	59	84	79	62.6
	Minimum...	30	24	26	42	46	48	49	37	29	29	29	24	10	26	27	24	33	33	36	38	24	28	30	32	40	36	30	35	34	40	46	33.4
Bowbells §§	Maximum...	76	80	72	91	85	57	62	61	51	53	55	56	62	55	65	70	65	67	45	41	45	48	75	48	42	42	50	62	64	84	54	60.7
	Minimum...	32	30	32	40	45	40	36	38	21	32	34	21	25	28	21	42	31	32	32	21	22	29	31	42	30	30	34	30	34	43	51	32.5
Cando	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Carson	Maximum...	80	78	80	88	78	75	70	70	55	45	65	50	66	80	85	72	66	65	57	50	57	65	72	75	60	50	50	52	62	80	66	66.9
	Minimum...	35	35	50	45	52	42	39	40	32	31	40	23	30	40	35	47	30	49	42	44	42	28	45	50	45	32	32	40	44	53	53	40.2
Crosby	Maximum...	72	79	78	71	76	64	62	57	50	52	55	48	58	64	59	68	63	67	44	48	48	58	72	48	40	52	55	66	70	83	72	61.5
	Minimum...	41	36	66	42	45	44	41	40	25	37	28	21	35	29	32	41	31	40	35	25	38	33	36	40	33	33	24	33	41	46	53	36.9
Devils Lake	Maximum...	78	70	68	90	83	56	65	64	48	50	56	48	62	44	55	73	65	69	50	44	50	55	57	59	49	41	52	63	59	80	67	60.8
	Minimum...	40	29	43	41	30	39	38	38	29	34	25	15	33	26	29	46	34	45	33	29	37	35	41	48	35	32	37	36	44	51	55	37.0
Dickinson	Maximum...	79	81	79	91	82	61	68	63	49	56	61	52	68	79	80	70	70	76	55	60	55	68	81	76	41	41	45	52	64	80	78	66.5
	Minimum...	44	34	47	49	51	49	36	41	35	33	31	24	30	41	31	41	22	46	37	27	41	24	44	50	41	32	33	34	42	44	49	38.2
Donnybrook	Maximum...	80	81	76	92	85	73	66	62	52	53	50	55	54	59	72	71	78	69	56	46	48	55	75	65	48	42	51	61	64	84	78	64.5
	Minimum...	45	32	58	51	46	41	41	40	30	35	31	16	33	31	28	47	34	45	38	20	38	33	34	35	32	32	30	34	40	50	55	37.3
Dunseith	Maximum...	79	73	73	92	86	72	65	64	60	50	55	50	61	52	68	73	69	64	52	43	46	54	65	54	51	42	51	63	62	80	80	62.9
	Minimum...	31	27	47	40	55	35	39	35	27	27	26	6	25	22	30	41	31	46	37	23	27	33	39	40	35	29	31	30	36	47	49	33.7
Edgeley	Maximum...	81	78	78	90	90	86	72	77	67	..	64	59	69	78	87	85	75	72	68	54	47	65	66	70	68	49	54	60	60	78	78	[a]70.8
	Minimum...	37	31	39	35	52	45	37	38	34	28	32	20	30	33	37	53	35	42	42	26	27	33	35	54	47	34	34	43	42	55	60	38.4
Ellendale	Maximum...	76	74	78	87	88	62	71	72	53	57	63	47	68	77	86	79	71	69	55	45	60	63	65	73	60	45	55	57	61	80	71	66.7
	Minimum...	39	36	45	37	46	41	39	38	34	31	33	24	26	36	42	52	41	48	36	30	42	39	40	55	42	37	37	45	48	57	55	40.4
Fessenden §§	Maximum...	78	74	72	91	87	54	67	64	50	56	58	51	64	50	78	75	67	73	50	44	53	58	63	67	46	40	52	60	57	59	65	62.7
	Minimum...	29	28	30	35	41	39	33	36	28	28	30	15	25	27	28	31	30	35	38	26	30	31	35	46	40	30	30	34	39	47	53	33.1
Forman	Maximum...	81	76	80	90	94	72	74	75	72	60	64	60	69	76	92	88	75	71	67	55	58	66	68	75	72	56	54	57	64	83	75	71.6
	Minimum...	41	30	50	41	55	52	39	43	35	29	34	24	29	36	42	65	44	45	44	33	44	36	45	44	54	38	40	45	49	47	61	42.6
Fullerton	Maximum...	78	74	77	87	89	74	71	73	53	58	63	48	67	87	82	74	76	72	53	45	59	63	67	61	66	47	54	59	62	80	75	67.9
	Minimum...	34	35	51	37	45	49	38	39	34	30	34	23	28	41	64	40	46	48	42	30	41	36	41	54	47	36	36	44	47	56	59	41.5
Garrison	Maximum...	83	81	75	91	83	70	68	65	59	56	58	54	66	68	78	72	66	75	64	58	52	61	72	68	55	42	49	58	61	80	72	66.5
	Minimum...	40	36	34	45	54	41	37	39	36	30	32	18	29	29	34	29	28	45	29	27	35	33	42	43	35	31	35	36	45	50	51	36.2
Grafton §§	Maximum...	80	66	67	92	89	54	63	67	49	50	51	50	63	38	64	82	65	76	54	48	52	59	59	65	52	50	60	68	66	79	68	62.7
	Minimum...	33	28	35	30	40	40	46	36	28	27	31	16	23	25	27	35	37	39	45	30	33	34	37	44	42	33	34	36	40	52	55	35.2
Grand Forks	Maximum...	71	65	70	91	94	56	63	63	53	51	57	47	65	44	76	83	66	75	56	46	57	58	58	61	60	50	60	67	64	79	74	63.9
	Minimum...	42	30	44	36	56	45	38	39	35	27	30	19	31	28	34	54	41	44	35	33	39	36	40	53	41	36	41	48	45	57	57	39.8
Granville	Maximum...	80	70	65	86	76	56	67	65	52	56	55	52	62	52	72	72	70	72	55	50	50	56	72	60	55	45	52	63	60	84	77	63.2
	Minimum...	40	28	38	44	55	40	40	40	30	35	33	15	30	13	28	44	34	48	38	25	37	33	40	45	35	30	37	40	45	50	56	37.0
Hannah	Maximum...	52	60	62	91	84	55	56	54	57	56	53	50	51	49	61	75	62	68	58	57	46	56	56	61	54	55	61	65	64	80	76	60.9
	Minimum...	35	29	45	47	53	42	35	37	28	29	30	9	25	28	29	34	35	39	39	30	35	33	37	42	38	30	31	35	40	49	51	35.5
Hansboro	Maximum...	80	73	68	92	85	60	63	68	50	51	56	48	65	47	68	72	64	69	50	38	45	56	66	50	48	42	56	72	62	82	82	62.2
	Minimum...	32	23	40	37	55	32	33	34	24	31	22	10	..	22	24	34	31	41	38	28	35	27	37	42	31	35	29	30	36	45	55	[a]35.2
Hettinger	Maximum...	68	80	86	83	80	84	72	74	68	72	64	59	69	81	85	75	85	75	69	67	73	71	80	80	72	46	44	51	65	80	80	72.2
	Minimum...	34	24	44	43	42	44	36	38	36	36	32	31	34	48	36	44	42	48	39	48	48	32	44	50	32	32	28	41	45	53	52	33.9
Howard	Maximum...	70	82	74	90	87	66	66	58	53	60	56	56	68	66	72	65	62	62	56	55	43	56	75	61	42	41	56	62	66	82	70	63.9
	Minimum...	37	35	46	48	54	42	36	40	22	26	24	17	27	30	30	39	31	40	34	24	34	28	33	42	30	32	28	27	42	50	52	34.7
Jamestown §§	Maximum...	75	68	69	85	90	58	65	66	56	51	54	46	63	66	80	73	68	69	48	51	45	60	62	57	48	48	53	60	60	81	72	63.1
	Minimum...	31	34	33	38	41	46	36	38	34	35	44	20	21	31	32	35	31	42	48	30	31	34	34	45	48	32	33	38	44	48	56	36.9
Lakota	Maximum...	80	68	66	70	89	58	68	58	45	51	55	..	65	49	54	75	69	70	58	57	50	..	57	60	61	42	..	..	57	64	66	[d]61.6
	Minimum...	36	27	31	32	43	40	32	35	23	25	15	..	26	25	33	45	34	40	27	27	37	..	33	40	39	32	..	..	34	53	56	[d]34.1
Lamoine	Maximum...	77	76	79	92	86	62	67	58	56	56	64	52	67	58	81	74	68	68	68	49	52	61	69	66	53	40	50	57	58	80	67	64.8
	Minimum...	37	30	41	46	50	37	34	37	27	30	28	13	28	28	28	46	26	30	40	25	30	30	39	46	38	28	30	37	43	48	51	34.9
Langdon	Maximum...	77	67	61	90	80	53	60	66	48	44	45	47	59	47	62	73	63	68	44	45	47	55	61	62	44	45	55	66	61	77	75	59.6
	Minimum...	29	25	28	37	40	36	36	38	26	26	25	13	25	23	23	41	32	35	41	29	29	32	32	42	33	30	34	35	40	44	52	32.6
Larimore §§	Maximum...	80	64	68	91	96	48	66	62	47	51	59	46	65	45	66	80	67	74	70	49	50	60	60	60	52	45	57	65	64	75	70	62.3
	Minimum...	38	30	50	32	62	40	35	39	32	30	32	17	24	32	28	52	36	42	48	30	40	32	40	52	40	27	38	40	40	56	58	38.5
Lisbon §§	Maximum...	76	70	78	92	88	62	73	70	50	58	63	54	68	72	86	87	72	70	56	49	55	64	68	69	58	49	55	65	68	90	72	68.0
	Minimum...	34	35	50	34	50	42	35	36	34	24	32	27	27	29	32	42	57	42	42	28	35	38	40	48	52	37	38	41	46	50	61	39.3
McHenry	Maximum...	80	70	70	90	93	65	70	69	55	53	59	49	48	53	78	79	69	74	55	50	55	48	59	57	45	44	54	62	57	67	69	62.8
	Minimum...	37	30	49	32	55	38	45	40	37	30	32	13	35	33	27	43	40	32	36	26	43	40	42	40	39	31	33	37	40	46	52	37.2
McKinney	Maximum...	88	90	76	98	90	65	71	68	56	60	65	41	64	55	75	80	70	75	68	50	57	55	80	65	51	46	55	65	65	90	84	69.0
	Minimum...	40	31	42	48	42	40	40	40	50	35	33	14	30	30	29	40	34	42	42	18	36	32	45	38	33	33	32	32	42	50	64	36.7
Maddock	Maximum...	77	75	73	90	90	83	68	65	64	54	58	54	65	57	70	76	75	73	66	48	59	56	60	62	58	43	51	62	58	80	79	66.1
	Minimum...	41	28	48	39	58	38	32	36	28	33	30	11	32	27	28	43	32	43	39	25	35	32	39	45	40	31	36	32	42	45	55	36.2
Marmarth	Maximum...	75	77	80	88	76	67	67	65	51	50	58	49	70	79	76	65	..	70	55	69	58	69	77	71	51	65	42	58	67	76	68	[a]65.2
	Minimum...	38	36	42	42	46	46	47	40	28	30	32	30	32	43	36	38	23	..	34	34	40	24	38	48	30	30	31	38	42	46	48	[a]37.1
Minot §§	Maximum...	80	81	73	92	84	55	65	64	50	54	58	55	65	56	73	74	69	73	51	46	49	65	76	59	43	43	52	60	64	85	74	64.1
	Minimum...	36	25	36	47	52	36	34	36	27	31	31	14	20	27	24	28	29	32	35	33	28	29	32	40	32	27	32	30	22	42	49	31.8
Mott	Maximum...	77	78	81	86	81	79	76	69	43	43	48	56	67	71	79	71	78	74	72	61	64	65	77	78	53	38	46	52	64	82	68	67.0
	Minimum...	38	42	56	52	55	48	32	38	32	33	27	29	39	40	44	42	37	31	36	32	37	23	44	46	33	30	32	38	41	42	50	38.7
Napoleon §§	Maximum...	81	76	80	90	92	61	71	72	51	54	62	52	68	78	85	76	73	75	54	44	58	66	70	74	49	47	53	62	63	82	70	67.4
	Minimum...	40	34	45	40	50	45	33	37	35	31	34	17	22	32	35	40	32	48	43	27	27	30	35	45	47	33	31	41	42	51	54	37.3
New Salem	Maximum...	82	78	78	90	82	78	70	67	56	76	60	52	67	78	85	76	67	77	54	52	56	54	73	73	64	39	43	55	66	79	62	66.8
	Minimum...	42	30	50	42	52	40	35	38	28	30	32	19	30	35	27	45	27	47	35	33	36	37	42	38	34	29	31	39	41	47	44	36.0
Orange	Maximum...	78	80	83	90	83	76	73	71	59	55	64	49	68	83	86	80	68	77	69	59	61	66	76	77	64	38	45	51	64	81	75	69.3
	Minimum...	40	35	38	47	48	47	38	48	30	31	32	26	27	41	34	47	30	49	40	31	41	23	45	51	37	32	32	41	45	54	52	39.1
Park River	Maximum...	80	70	65	91	90	71	66	66	66	47	52	50	63	59	62	75	74	76	70	46	51	58	59	62	60	47	..	66	66	78	79	[a]65.5
	Minimum...	40	38	31	36	66	40	40	41	29	30	22	17	34	20	30	43	37	43	44	33	38	35	47	40	44	36	..	39	45	52	63	[a]38.6
Pembina §§	Maximum...	82	62	63	94	82	52	61	68	48	46	52	48	62	64	62	80	62	81	48	54	52	52	62	62	52	49	62	72	71	82	74	63.3
	Minimum...	44	32	38	39	52	41	41	48	29	34	31	15	34	32	40	44	40	43	44	31	44	32	36	52	49	30	40	39	45	48	61	39.7
Steele	Maximum...	78	80	82	90	90	72	58	69	64	61	63	54	66	70	64	70	70	66	65	64	59	65	69	67	61	56	52	49	61	75	78	67.7
	Minimum...	41	45	46	50	42	45	44	34	36	32	28	32	41	44	42	42	34	44	32	44	34	36	45	41	33	34	34	43	42	55	56	40.0
Towner	Maximum...	80	77	77	93	84	84	67	65	63	52	57	54	63	55	71	73	73	73	64	48	50	56	59	69	56	43	54	67	64	83	83	66.8
	Minimum...	35	27	48	42	52	40	38	40	28	30	31	18	28	26	27	42	33	39	40	23	35	32	41	35	38	32	38	36	43	46	56	36.0
Valley City	Maximum...	79	73	71	84	91	74	69	69	64	51	60	52	68	67	83	82	75	71	50	49	56	60	62	64	63	46	55	60	61	78	73	66.5
	Minimum...	40	32	54	39	55	44	34	41	32	28	34	18	33	29	32	59	37	40	42	27	38	33	38	53	43	35	37	41	45	53	60	39.5
Wahpeton §§	Maximum...	67	70	78	86	90	76	74	74	53	62	64	47	68	68	88	89	75	77	59	51	66	61	65	69	66	48	59	60	65	82	72	69.1
	Minimum...	32	40	39	36	39	48	38	41	45	25	28	21	22	32	38	38	47	39	40	30	33	36	35	44	50	40	40	43	51	61	61	39.1
Washburn	Maximum...	75	80	80	90	86	67	68	65	60	56	67	81	80	73	70	73	65	59	58	51	64	72	70	62	44	50	54	62	82	81	69.0
	Minimum...	45	34	50	55	56	44	40	44	32	34	19	34	31	31	50	45	50	41	34	28	38	31	46	49	40	33	40	45	45	51	56	41.0
Westhope	Maximum...	82	79	80	94	..	58	67	66	56	56	58	55	63	38	59	66	63	50	36	38	37	50	65	47	44	39	42	63	59	66	66	[a]58.1
	Minimum...	36	29	40	40	..	24	40	38	29	33	30	16	25	28	25	24	35	44	35	26	37	32	40	44	33	30	32	30	34	47	47	[a]33.5
Williston	Maximum...	76	81	77	91	71	63	65	60	50	55	57	54	69	68	73	64	68	67	49	55	45	62	78	60	42	44	50	58	66	83	71	63.8
	Minimum...	43	42	50	52	50	47	40	41	31	38	35	24	33	38	33	34	32	48	34	30	33	33	38	42	33	36	36	35	45	51	57	39.2
Willow City	Maximum...	77	73	69	92	82	47	64	63	54	51	55	51	61	41	68	71	63	66	52	44	46	52	66	65	51	41	51	64	56	80	76	60.7
	Minimum...	35	25	47	38	46	42	36	33	29	34	29	13	23	25	31	39	33	47	39	25	34	32	40	40	28	32	36	34	40	46	50	35.2
Zap	Maximum...	77	82	72	91	82	68	68	68	55	52	52	52	68	65	78	72	72	70	50	47	48	62	72	70	56	38	45	54	62	80	78	64.7
	Minimum...	40	30	47	45	57	41	32	39	32	30	35	19	28	35	29	45	23	48	39	27	37	27	41	46	30	33	32	36	44	50	51	37.0

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
M.G.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 12, 1918.

Departure of the Mean Temperature from the Normal, June, 1918.



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U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JUNE, 1918. No. 6.

GENERAL SUMMARY.

The weather of the month was generally unfavorable for the growth of crops, on account of the deficiency of rainfall. Temperature conditions were favorable, the cool nights and moderate day temperatures helping to conserve moisture. Crops were generally in excellent condition at the beginning of the month, and continued so for the first ten days, but after that the drought began to tell on the crops in the western two-thirds of the State, where the rainfall during the remainder of the month was too light to be of much benefit. The crops that suffered most were the early sown wheat, which had stooled too heavily to withstand the drought, and the late sown flax, a large percentage of which failed to germinate. Rye generally failed to fill satisfactorily, and the oat crop was in poor condition at the end of the month. The condition of the meadows indicated a short hay crop. Corn, however, withstood the drought exceptionally well, and at the close of the month, though somewhat backward, was in good condition. Grasshoppers did considerable damage to crops in the southwestern portion of the State.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 29.93 inches. The highest was 30.41 inches at Ellendale on the 17th; the lowest was 29.22 inches at Moorhead, Minn., on the 1st.

TEMPERATURE.

The mean temperature for the State was 63.3°, or 0.5° above the normal, and 3.6° higher than the mean for June, 1917. The highest mean reported was 67.6° at Sanish, Mountrail County; the lowest was 59.2° at Bowbells, Burke County, and at Langdon, Cavalier County. The highest temperature reported was 102° at Buford, Williams County, on the 9th, and at Eckman, Bottineau County, Minot, Ward County, and Williston, Williams County, on the 10th; the lowest was 27° at Marstonmoor, Stutsman County, on the 30th. The greatest monthly range of temperature was 73° at Minot, Ward County; the least was 49° at Grafton, Walsh County. The greatest daily range was 52° at Eckman, Bottineau County. Usually the highest temperature occurred on the 10th, and the lowest during the period from the 2d to the 7th, or on the 29th or 30th.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 66 per cent, the average at 7 a. m. being 78 per cent, and at 7 p. m. 55 per cent.

PRECIPITATION.

The average precipitation for the State was 1.63 inches, or 1.87 inches below the normal, and 0.46 inch less than the average for June, 1917. The greatest monthly amount reported was 3.92 inches at Pembina, Pembina County; the least was 0.09 inch at Parshall, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 1.84 inches at Langdon, Cavalier County, on the 1st. The average number of days with 0.01 inch or more of precipitation was 7. Light scattered showers fell on nearly all days of the month, but most of the heavier falls occurred during the periods, 1st to 6th, 15th to 17th, and 26th and 27th. The geographical distribution was rather uneven, varying from less than one inch over the greater portion of the western half of the State to over three inches in portions of the Red River Valley.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 10.4 miles. The greatest wind movement was 9,201 miles at Ellendale, an average of 12.8 miles per hour; the least was 6,025 miles at Moorhead, an average of 8.4 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 40 miles per hour from the northwest at Ellendale on the 11th.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 14, partly cloudy days 11, and cloudy days 5

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	60.5	−2.3	94	28	3.55	+0.05	10	8	11	9	nw.
1893...	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894...	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895...	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896...	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897...	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898...	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899...	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900...	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901...	61.6	−1.2	95	22	6.16	+2.66	15	10	11	9	nw.
1902...	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw.
1903...	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904...	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905...	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906...	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907...	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908...	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909...	62.9	+0.1	98	28	2.21	−1.29	10	12	11	7	e.
1910...	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911...	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912...	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913...	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914...	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915...	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916...	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917...	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918...	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.

Climatological Data for June, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	61.0[b]	−3.1	92[e]	10	36	7	47[e]	2.35	−1.48	0.73	0	8	19	9	2	n.	E. T. Carley.
Ashley	McIntosh	2,001	21	64.1	+2.1	92	10	34	30	40	1.76	−1.79	0.75	0	4	21	5	4	sc.	R. C. Miles.
Beach	Golden Valley	2,576	12	66.6	+5.1	100	9	31	5	46	0.48	−3.85	0.23	0	5	19	9	2	nw.	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	24	65.4[a]	+2.1	101	10	32	4	50	0.51	−3.61	0.19	0	6	21	6	3	nw.	C. L. Hall.
Bierman	Slope	.....	2	67.0	.....	96	10	40	30	41	0.90	.....	0.30	0	6	14	4	12	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	65.8	+1.6	101	10	40	4	42	0.59	−2.95	0.35	0	4	13	10	7	nw	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	61.2	+3.1	97	10	35	4	44	2.13	−1.28	0.51	0	13	13	4	13	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	59.2[d]	.....	92[e]	14	34[d]	3†	40[e]	0.81	.....	0.28	0	7	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	4	65.4	.....	94	10	34	2	41	0.93	.....	0.32	0	8	13	15	2	nw.	M. W. Madsen.
Buford	Williams	1,944	39	65.7	+1.4	102	9	34	2	44	0.48	−2.33	0.45	0	3	13	17	0	nw.	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	1.40	−2.42	0.60	0	4	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	63.4	.....	98	10	36	2	40	1.21	.....	0.56	0	6	11	18	1	nw.	J. W. Evens.
Colgate	Steele	1,177	4	61.8	.....	92	10†	35	7†	47	2.21	.....	0.75	0	7	18	10	2	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	2.78	−1.05	0.56	0	7	21	6	3	nw.	S. Friswold.
Crosby	Divide	1,954	11	63.1	+2.4	101	10	35	3	44	0.88	−2.44	0.27	0	9	10	10	10	w.	John Jensen.
Devils Lake	Ramsey	1,478	14	61.2	−1.4	96	10	39	29	37	2.00	−1.53	0.91	0	11	11	9	10	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	64.3	+2.7	97	10	35	4	45	1.61	−1.26	1.22	0	6	11	4	15	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	19	63.9[a]	+2.4	101[a]	10	31[a]	4	42[a]	0.52	−2.30	0.52	0	1	.....	.....	.....	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.86	.....	0.32	0	6	16	12	2	se.	W. H. Mellow.
Dunseith	Rolette	1,682	22	60.7	−0.9	96	10	35	3†	46	2.41	−0.61	0.51	0	11	10	6	14	nw.	J. G. Lamont.
Eckman	Bottineau	.....	13	61.8	+0.5	102	10	30	3	52	2.09	−0.87	1.10	0	10	12	12	6	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	64.1	+1.3	97	10	34	7	44	1.00	−2.43	0.60	0	4	4	20	6	se.	O. A. Thompson.
Ellendale	Dickey	1,449	20	62.9	.....	92	10	38	7	36	2.47	.....	1.32	0	11	10	13	7	nw.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.20	0	5	5	23	2	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.10	0	5	15	13	2	se.	M. E. Uggen.
Fessenden	Wells	1,610	6	60.0	.....	98	10	35	4†	51	2.58	.....	1.15	0	9	14	12	4	se.	G. T. Seymour.
Forman	Sargent	1,249	26	63.4[b]	−2.2	93[b]	10	28[a]	30	48[b]	2.31	−1.06	1.20	0	4	14	16	0	nw.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.50	0	6	10	19	1	nw.	Verne King.
Fullerton	Dickey	1,439	20	65.0	+2.0	94	10	37	7†	40	1.97	−1.16	0.45	0	6	17	10	3	nw.	F. O. Alin.
Garrison	McLean	1,901	23	62.4	−0.4	99	10	36	4†	43	0.80	−2.55	0.29	0	6	11	14	5	nw.	G. L. Robinson.
Grafton	Walsh	827	26	61.2	−2.1	87	10	38	3	42	2.13	−1.22	1.45	0	10	21	7	2	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	26	61.9	−1.5	93	10	38	2	34	0.79	−2.74	0.54	0	5	20	7	3	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	64.4	.....	96	10	30	7	41	1.06	.....	0.46	0	5	13	11	6	se.	G. H. Leick.
Granville	McHenry	1,504	11	62.2	−0.9	100	10	35	3	45	1.53	−1.57	0.78	0	7	10	16	4	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	62.2	+3.0	91	10	39	7	41	3.12	−0.20	1.82	0	6	13	10	7	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	59.4[a]	.....	97[a]	10	31[a]	2	41[a]	1.75	.....	0.48	0	10	.....	.....	.....	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	66.9	+4.7	98	10	36	4	42	1.93	−1.76	0.38	0	12	11	13	6	se.	U. J. Downey.
Hillsboro	Traill	901	12	63.6	−0.8	92	10	39	7	48	2.20	−1.47	0.60	0	12	9	20	1	n.	F. E. Mayall.
Howard	Williams	2,275	11	63.1	+3.2	100	10	32	3	44	0.72	−2.27	0.72	0	1	12	15	3	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	63.0	−0.6	98	10	36	7	39	3.31	−0.45	1.58	0	7	16	3	11	ne.	S. Calvelage.
Lakota	Nelson	1,579	17	59.8[b]	−1.1	92[b]	10	36	3†	45[b]	1.06	−2.50	0.40	0	7	12	12	6	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	60.6	+0.1	95	10	31	30	40	1.96	−1.60	0.77	0	5	18	8	4	e.	E. V. Virgin.
Langdon	Cavalier	1,615	22	59.2	−0.6	93	10	36	4†	37	3.56	−0.23	1.84	0	13	19	2	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	61.6	−1.0	94	10	38	7†	36	3.23	−0.22	2.00	0	7	15	7	8	nw.	G. G. Graham.
Linton	Emmons	1,711	.....	66.9	.....	99	10	33	2	44	2.00	.....	0.65	0	9	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	63.8	+0.7	92	10	38	7	41	3.12	−1.50	1.20	0	8	22	2	6	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	1.41	.....	0.48	0	8	11	16	3	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	61.9	.....	96	10	36	29†	43	3.05	.....	0.75	0	7	19	6	5	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	.....	.....	.....	.....	28	3	.....	0.73	−2.73	0.35	0	3	15	11	4	s.	N. P. Swenson.
McLeod	Ransom	1,075	6	64.8	.....	91	10	38	10	34	2.47	.....	1.13	0	11	4	25	1	sc.	R. D. Markland.
Maddock	Benson	1,604	3	61.8	.....	96	10	33	29	47	1.73	.....	0.73	0	9	7	10	13	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	64.8	.....	100	10	38	4	42	1.44	.....	0.76	0	5	16	0	14	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	63.4	+1.5	98	10	37	30	43	1.68	−2.02	0.78	0	9	11	17	2	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	65.6	.....	93	10	37	2	43	1.35	.....	0.80	0	9	.....	.....	.....	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	.....	.....	90[i]	25	27[i]	30	48[i]	0.90	.....	0.70	0	3	.....	.....	.....	.....	H. H. McCumber.
Mayville	Traill	975	22	64.0	−1.3	94	11	38	29	38	2.36	−0.65	0.70	0	11	19	6	5	sw.	W. C. Gould.
Melville	Foster	1,590	20	66.3[i]	+3.2	92[i]	10	40[i]	29	43[i]	1.47	−1.95	0.68	0	4	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.66	0	8	12	13	5	nw.	Hj. Edman.
Minot	Ward	1,557	22	60.6	−2.7	102	10	29	3	51	0.98	−2.26	0.35	0	8	12	14	4	e.	W. I. Faris.
Minto	Walsh	820	25	63.2	−0.7	94	11	39	22	40	1.64	−1.70	1.15	0	7	15	7	8	se.	C. M. Evans.
Mott	Hettinger	2,424	11	64.9	+1.8	98	10	32	2	46	1.70	−2.06	0.40	0	9	14	8	8	se.	O. H. Opland.
Napoleon	Logan	1,955	26	63.5	−1.9	96	10	30	30	48	2.02	−1.76	1.11	0	11	20	8	2	s.	C. J. Hoof.
New England	Hettinger	2,400	24	65.0	+2.6	95	10	38	2	39	1.74	−0.77	0.93	0	7	25	4	1	nw.	R. S. Lowis.
New Salem	Morton	2,163	13	64.2	+1.2	98	10	38	30	38	1.07	−3.18	0.54	0	7	22	6	2	se.	J. Christiansen.
Orange ‡‡	Adams	2,586	9	65.1	.....	95	10	34	2	38	2.05	.....	0.62	0	7	6	9	15	nw.	T. F. Young.
Park River	Walsh	998	14	63.0	−0.2	96	10	39	3	38	0.87	−2.75	0.35	0	6	11	14	5	nw.	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	0.09	.....	0.09	0	1	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	62.3	−0.4	92	10	42	2†	36	3.92	+0.27	1.80	0	6	9	9	12	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	1.20	.....	1.20	0	1	22	7	1	w.	C. Frank.
Sanish	Mountrail	2,260	4	67.6	.....	98	10	40	28†	47	0.15	.....	0.15	0	1	24	0	6	.....	E. H. Senechal.
Searing	McKenzie	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Taylor.
Steele	Kidder	1,857	21	65.0	+2.3	95	9	36	30	37	1.58	−1.75	0.58	0	7	11	19	0	w.	H. S. Wood.
Taylor	Stark	2,493	2	64.6	.....	95	10	39	2	41	1.47	.....	0.66	0	5	5	23	2	se.	H. Leutz.
Towner	McHenry	1,482	16	64.2	+2.0	99	10	34	3	43	2.66	−1.02	1.48	0	6	11	13	6	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	62.4	.....	91	10	39	29	33	2.19	.....	0.75	0	8	19	8	3	nw.	R. Bruns.
Wahpeton	Richland	962	24	64.2	−1.4	91	10	38	7	37	1.33	−2.58	0.55	0	9	17	9	4	nw.	F. E. Smith.
Walhalla	Pembina	966	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ivan Lee.
Washburn	McLean	1,734	19	64.6	+0.2	99	11	38	4	39	1.73	−1.98	0.82	0	8	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	30.4[d]	−1.4	93[h]	25	35	3	38[h]	3.11	−0.01	1.17	0	9	21	5	1	se.	W. A. Meddaugh.
Williston	Williams	1,875	39	65.2	+1.7	102	10	36	3	42	0.57	−3.00	0.14	0	8	11	17	2	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	59.4	−2.4	98	10	32	3†	44	1.57	−1.96	0.45	0	11	8	16	6	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	62.1	.....	94	10	32	4	40	1.06	.....	0.68	0	7	13	12	5	se.	H. A. Crandall.
Moorhead, Minn	Clay	935	37	64.4	+0.1	94	10	40	7	33	1.78	−2.35	0.69	0	12	18	11	1	nw.	U. S. Weather Bureau.
Averages		.....	.....	63.3	+0.5	102	10	27	30	52	1.63	−1.87	2.00	0	7	14	11	5	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for June, 1918.

Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖ ‖	Red	.10		T.		.73	.12			.10	.30				.12				.33								.55	T.					2.35
Ashley	Missouri	T.				.75			.27									.60			T.		T.					.14					1.76
Beach	Lit. Missouri			T.	.03	.02	.02							T.															.18	.23			0.48
Berthold Agency	Missouri	.02		.04	.08	.07								.11		T.		.19		T.					T.	T.	T.	T.		T.			0.51
Bierman	Lit. Missouri	T.		.07		.30											.04		T.						.07					.27	.15		0.90
Bismarck ***	Missouri				.01	.34	.01							T.		T.	T.	.23															0.59
Bottineau ‖ ‖	Mouse	.23	.09		.15	T.	.25		.51	.13	T.					.14			.12		.13				T.	.20	T.	.07	.05	.06			2.13
Bowbells ‖ ‖	Mouse			.16			.09									.12			.04														0.81
Bowman	Grand	T.		.02	.18			.32	.10							.03	T.	T.		.12	T.		T.		T.	.06		T.		.10			0.93
Buford	Missouri	T.	T.	T.	T.	.01							T.		T.		.45							T.		T.	T.	T.	.02				0.48
Cando	Sheyenne					.55			.60							.15		T.							T.				.10				1.40
Carson	Heart	.03		.56		.06	.16											11					.29										1.21
Colgate	Sheyenne					.27			.20	.75								.28	.04							.60	.07		T.				2.21
Cooperstown	Sheyenne				.55	.40			.56	.25								.40							.50		.12						2.78
Crosby	Mouse	.27	.01	.04		.01									.27										.15	.01		.09	.03				0.88
Devils Lake ***	Sheyenne	.20	T.	T.		.04	.87			.28	.24			T.		.14	T.	.01		T.	T.				T.	.16	.01	.01	T.	.04			2.00
Dickinson ‖ ‖	Heart					.10	T.		1.22	.02					T.	.02	T.	.23	T.					T.		T.		T.		.02			1.61
Donnybrook	Mouse															.52												T.					0.52
Dunn Center	Knife	.29		.03		.10								T.		.05		.32								T.			.07				0.86
Dunseith	Mouse	.36	.19	T.		.17	.16		.51							.29			.09	.11					T.		.22	.05		.26			2.41
Eckman	Mouse	.01	.01	.06	T.	.34			T.					.04		1.10				T.							.41	.01	.07	.04				2.09
Edgeley	James						T.									.19		.60		.17			.04										1.00
Ellendale	James	T.		.03	T	.01	.49			.08	.02			T.		1.32	T.	.33		.02	.13		T.			T.	.03	T.		.01			2.47
Energy	Missouri	.04	T.	.03	.04	.20	T.			T.				.06	T.	T.	T.			T.													0.37
Epping	Missouri					.02	.02									.04		.10												.06			0.24
Fessenden ‖ ‖	James	1.15		.04	T.	.51	.22			T.					.10		T.	.10	.23							T.	.19	.04		T.			2.58
Forman	Sheyenne						1.00									1.20										T.	.07		.04				2.31
Fryburg	Lit. Missouri				.18					.03				T.		.50	T.	.13	T.				T.		T.				T.	.20	.13		1.17
Fullerton	James					.10			.28							.45		.79		.16	T.		.19										1.97
Garrison	Missouri	T.	T.	.02	.16	.29								.06		T.		.12							T.	.15	T.						0.80
Grafton ‖ ‖	Red	1.45	.05			.11	.23		.07	.02																	.09		.04	.02	.05		2.13
Grand Forks	Red			.06		.54			T.									.01								.16		.02	T.	T.			0.79
Grand Rapids	James		.10			T.										.28		.46		.12			T.			.10							1.06
Granville	Mouse	T.	T.	.02	.06	.78	.04							.05		.53		T.		T.					T.	T.	T.		.05					1.53
Hannah	Pembina	.11	T.			.20		.12	.16							T.					T.					1.82	T.		.71				3.12
Hansboro	Red					.30		.48	.07							.08			.02						.03	.07	.38	.01	T.	.31				1.75
Hettinger	Grand	.38			.10	.05	.12	.19							.05					.38			.30		.03		.02		.01		.30		1.93
Hillsboro	Red	.25		.05	.03	.33	.05		.14	.60								.02	.13	.03							.52	.05						2.20
Howard	Missouri	T.	T.	T.	T.	T.	T.		T.					T.	.72			T.		T.					T.	T.	T.	T.					0.72
Jamestown ‖ ‖	James	1.13				.03	.45											.04	.02							1.58	.06						3.31
Lakota	Sheyenne	.40	.03		T.	.19			.04																	.25	.13	.02					1.06
Lamoine	Missouri			T.	*	.66								T.				.77	T.	T.						.31	.22	T.					1.96
Langdon ‖	Pembina	1.84	.12	.05	.13	T.	.20		.27	.06						.10	.03				T.						.36	T.	.10	.04	.26			3.56
Larimore ‖	Red	2.00			.05	T.	.53			.14						.01											.30	.20						3.23
Linton	Missouri	.15	.25			.30		.10	T.									.65	.10	.15		.25		.05									2.00
Lisbon ‖	Sheyenne	1.20	T.	T.		.14	.70			.11							.10		.22		.06						.59							3.12
McClusky	Missouri	.05	.04	.08	.09	.48								.20				.35								.12	T.						1.41
McHenry	James		T.	T.		.25	.75		.68	.27								.55								.35		.20		T.			3.05
McKinney	Mouse		T.			.35								T.		.33										.05			T.				0.73
McLeod	Sheyenne	.04	T.	T.		1.13	.05		.39	.07	.03				.02	.03		.23									.44	.04						2.47
Maddock	Sheyenne		.04			.73			.38	.03				.03		.26			.12							.12	.02						1.73
Mandan ‖	Missouri	.76				.03	.36								T.			.28	.01														1.44
Manfred	Sheyenne	.26	T.	.02	.03	.78			T.					.06		.16		.25								.05		.04		T.			1.68
Marmarth	Lit. Missouri	T.		.06	.06				.21				T.			.04	T.	T.	.80				T.		.03	.04			.02	.09	T.		1.35
Marstonmoor	James					.70																				.12	.08			T.				0.90
Mayville	Red	.65		.10		.70	.08		.06	.21						T.		.06									.38	.06	.05	.01				2.36
Melville	James					.68								.12				.49		T.						.18			T.				1.47
Milnor	Red	.06	T.	.05			.66		.17	.05						T.	.37	.41								T.	.28							2.05
Minot ‖	Mouse				.04	.15	.35								.05	.22			.06											.10	.01			0.98
Minto	Red	1.15	.06		.03	.20	.02																				.10		.08				1.64
Mott	Cannon Ball	.02		.40		.20	.01											.34		.10			.12							.34	.17		1.70
Napoleon ‖	Missouri	1.11	.03	.02			.10		.12	.02					.05	.02		.25	.26					.04									2.02
New England	Cannon Ball	.11		.07		.05	T.										.02	.12	T.											.44	.93		1.74
New Salem	Heart	.01		T.	T.	.11	.27		.02					.07	.05	T.		.54											T.					1.07
Orange	Cannon Ball				.14	.32	.10												.25	.62			.40								.22			2.05
Park River	Red		.15	T.	T.	.35			.20							T.									T.		.07	.02	T.	T.	.08			0.87
Parshall	Missouri					.09																												0.09
Pembina ‖	Red	T.	1.80	.20		T.	T.			.10																	1.10	T.	.10		.62			3.92
Powers Lake	Missouri	T.	T.	T.	T.	T.								1.20													T.							1.20
Sanish	Missouri															.15																		0.15
Searing	Lit. Missouri																																	
Steele	Missouri	.25			.06	.58	.09		.05						T.	.02		.53				T.			T.	T.	T.			T.				1.58
Taylor	Heart	T.				.66	.10		.06									.56											.09					1.47
Towner	Mouse			.03	T.	.58	.04		.03	.50						1.48			T.															2.66
Valley City	Sheyenne	T.	T.		.06	.14				.70				.16		.03		.32	T.							.75	.03		T.					2.19
Wahpeton ‖	Red	.04	T.	.02	.10	.04	.55		.06						.10				.21								.21							1.33
Walhalla	Pembina																																	
Washburn	Missouri	.15	.05		.07	.13								.05				.38		.82									.08					1.73
Westhope	Mouse	1.03	.05	.04		.18	.08		1.17	.24						.10														.22				3.11
Williston ***	Missouri	.02		T.	.03	.07								T.	.14			.09		T.					.11		.04			.07				0.57
Willow City	Mouse	.15				.45	.09		.25	.02				.01		.15		T.	T.	.18					T.		.12	.03	T.	.12				1.57
Zap	Knife	T.			.09	.01	.20							.06				.68							.01		.01							1.06
Moorhead, Minn ***	Red	.04				.14			.10	.07				.10		.07		.36		T.						.69	.01	.06	.12	.02				1.78

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	73	72	..	..	..	63	70	72	66	92	84	82	80	77	78	74	70	62	74	84	72	90	79	72	60	78	65	62	57	58	....	[c]72.8
	Minimum...	51	39	43	42	46	50	36	41	50	53	58	52	54	48	51	57	54	53	56	57	50	43	55	47	50	55	53	47	40	40	....	49.2
Ashley	Maximum...	65	70	73	69	78	65	65	85	82	92	85	83	89	91	73	73	68	69	78	80	71	67	85	81	90	80	75	74	68	74	....	76.6
	Minimum...	49	48	48	40	54	52	39	50	57	57	63	50	53	66	59	58	52	59	53	59	48	43	55	56	50	55	51	46	45	34	....	51.6
Beach	Maximum...	70	66	66	70	70	89	92	88	100	92	89	95	84	98	87	89	85	79	76	77	76	85	88	86	88	85	74	72	64	72	....	81.7
	Minimum...	48	38	44	49	31	45	55	68	58	70	50	49	62	57	60	53	58	60	49	50	52	56	49	50	56	42	56	40	46	38	....	51.6
Berthold Agency	Maximum...	63	69	68	64	79	70	80	85	85	101	88	97	90	93	82	78	68	73	94	82	81	78	93	86	92	82	75	72	..	79	....	[a]80.9
	Minimum...	49	33	36	32	46	43	44	53	53	51	57	53	50	53	65	53	54	57	65	53	47	53	49	57	60	51	51	41	..	38	....	[a]49.9
Bismarck	Maximum...	64	70	71	70	80	66	72	85	81	101	85	93	79	83	84	74	67	74	82	81	74	69	88	79	93	83	76	72	67	72	....	78.0
	Minimum...	47	40	50	40	53	50	46	58	55	59	60	58	57	55	61	60	54	57	63	59	52	52	57	59	59	58	54	47	43	42	....	53.5
Bottineau §§	Maximum...	66	65	65	69	71	66	70	65	73	97	83	89	71	87	82	75	65	71	80	76	75	79	87	71	92	77	66	60	61	76	....	74.3
	Miuimum...	45	37	38	35	45	43	40	49	45	53	58	57	59	52	54	51	50	52	55	52	49	48	50	53	53	49	44	46	40	42	....	48.1
Bowbells §§	Maximum...	64	61	64	66	76	70	78	61	..	..	..	..	..	92	81	78	63	72	90	68	71	86	88	76	91	75	66	63	75	70	....	[c]73.8
	Minimum...	42	43	34	36	42	34	38	49	43	54	..	..	..	..	47	41	50	52	52	49	40	46	50	45	51	45	47	45	41	40	....	[d]44.5
Carson	Maximum...	60	66	68	62	80	63	75	84	82	98	90	85	86	84	82	72	70	72	85	80	70	60	82	80	90	80	70	62	65	75	....	75.9
	Minimum...	48	36	46	42	50	43	53	38	58	58	58	62	56	54	56	54	52	55	60	60	42	50	52	56	60	58	42	44	45	40	....	50.9
Crosby	Maximum...	62	60	70	65	74	67	82	64	87	101	85	91	72	94	78	72	64	79	88	75	76	82	83	83	86	74	66	63	66	76	....	76.2
	Minimum...	45	37	35	38	42	37	43	48	45	57	57	61	58	56	60	47	57	57	63	52	47	52	56	56	56	49	47	47	48	46	....	50.0
Devils Lake	Maximum...	66	65	68	70	67	60	72	66	72	96	80	83	72	81	82	71	65	74	73	76	71	76	86	66	86	76	69	63	51	71	....	72.5
	Minimum...	46	41	41	42	49	44	46	50	47	59	60	56	53	49	65	52	49	55	57	58	48	45	55	53	51	54	50	43	39	40	....	49.9
Dickinson	Maximum...	62	67	67	67	75	66	80	84	85	97	84	92	78	92	73	73	70	74	91	82	75	72	87	88	89	82	74	71	60	76	....	77.8
	Minimum...	47	38	43	35	47	43	45	53	56	57	55	60	60	53	65	54	52	51	63	58	44	56	46	59	54	45	52	43	45	45	....	50.8
Donnybrook	Maximum...	68	75	..	68	75	70	78	73	80	101	92	94	79	90	85	74	75	80	90	76	73	78	87	75	90	78	70	63	61	75	....	[a]78.4
	Minimum...	48	40	..	31	45	49	46	51	46	61	56	53	57	48	63	48	50	41	56	55	45	49	56	52	51	50	51	49	43	44	....	[a]49.4
Dunseith	Maximum...	65	65	63	67	66	66	73	70	70	96	94	85	83	82	82	79	68	68	73	76	71	75	82	68	87	86	67	57	54	71	....	73.6
	Miuimum...	49	36	35	35	46	40	36	47	48	50	61	56	53	52	65	47	49	53	57	53	45	46	49	51	51	50	47	49	38	39	....	47.8
Edgeley	Maximum...	68	71	71	69	81	76	64	80	78	97	84	85	85	86	90	83	69	67	72	82	77	70	87	85	91	85	79	75	72	75	....	78.5
	Minimum...	51	40	44	39	51	51	34	50	52	53	64	48	50	46	62	57	50	54	58	58	51	42	57	53	48	55	51	46	40	35	....	49.7
Ellendale	Maximum...	68	68	70	68	79	62	62	79	79	92	82	81	86	83	90	68	63	68	72	80	70	66	82	71	82	77	75	73	60	73	....	74.3
	Miuimum...	46	42	49	43	55	48	38	51	55	56	62	53	53	53	66	54	54	55	59	59	51	46	58	54	49	58	50	50	41	38	....	51.5
Fessenden §§	Maximum...	66	65	68	69	67	61	69	73	70	98	83	87	72	85	82	71	60	73	77	78	72	74	87	*67	91	78	72	69	51	77	....	73.7
	Minimum...	49	37	41	35	40	45	38	44	46	47	58	48	53	45	53	51	48	48	54	57	46	41	46	52	50	52	48	44	37	35	....	46.3
Forman	Maximum...	72	72	78	75	82	80	68	83	83	93	84	89	84	90	..	..	74	73	73	76	77	75	84	80	84	81	80	78	72	71	....	[b]79.0
	Miuimum...	54	42	54	47	55	52	42	72	56	61	66	53	58	55	..	55	44	43	43	45	41	35	36	38	37	40	55	39	36	28	....	[a]47.7
Fullerton	Maximum...	69	71	71	70	82	63	65	80	79	94	83	86	87	86	90	75	66	69	73	80	71	72	87	71	85	80	76	76	60	74	....	76.4
	Miuimum...	49	41	41	42	53	48	37	50	54	54	63	65	53	58	69	64	56	55	58	57	52	58	57	58	58	64	60	48	45	37	....	53.5
Garrison	Maximum...	64	67	67	63	73	73	74	78	79	99	94	91	76	74	80	73	67	73	80	83	74	70	86	78	91	80	72	72	63	75	....	76.4
	Minimum...	46	37	38	36	46	43	42	53	49	56	56	56	54	50	61	51	52	55	58	53	47	49	48	48	54	51	48	36	37	43	....	48.4
Grafton §§	Maximum...	68	67	68	73	70	63	74	73	76	87	82	78	78	84	87	73	75	80	76	80	71	77	87	69	85	78	69	64	54	68	....	74.5
	Miuimum...	50	42	38	39	47	45	39	48	47	55	60	47	53	42	55	50	40	50	53	57	49	37	50	57	50	51	51	50	42	42	....	47.9
Grand Forks	Maximum...	70	67	71	72	66	61	72	73	76	93	81	74	77	82	83	72	70	77	73	81	70	74	87	69	81	78	72	65	59	67	....	73.8
	Minimum...	39	38	44	44	51	46	41	53	50	58	56	51	53	48	64	54	46	56	56	56	48	40	54	54	51	58	53	52	42	44	....	50.0
Granville	Maximum...	65	68	65	70	70	70	75	60	75	100	85	92	65	90	79	72	63	74	82	67	73	75	85	72	90	78	70	65	60	72	....	74.6
	Minimum...	47	38	35	37	50	44	45	42	48	55	57	65	55	49	62	50	53	54	52	60	48	52	48	52	54	56	50	47	43	42	....	49.7
Hannah	Maximum...	76	70	67	70	71	60	80	76	80	91	80	75	79	84	83	84	86	79	80	78	70	73	85	80	84	62	60	59	58	65	....	74.8
	Minimum...	48	41	40	42	44	40	39	50	48	54	63	56	56	49	58	57	57	56	54	55	50	36	50	60	56	54	48	46	40	40	....	49.5
Hansboro	Maximum...	65	60	63	71	69	60	75	55	73	97	85	85	69	83	82	72	68	71	72	75	73	..	85	67	88	74	56	52	55	72	....	[a]71.4
	Minimum...	59	31	33	35	40	39	39	47	46	56	59	58	50	44	61	42	44	54	53	54	54	..	53	54	49	40	42	44	44	47	....	[a]47.3
Hettinger	Maximum...	59	69	68	73	73	80	83	84	93	98	92	93	93	92	93	84	71	78	79	83	78	70	85	90	90	83	83	80	77	70	....	81.5
	Minimum...	44	37	38	36	53	44	49	54	56	56	56	58	68	68	56	56	54	54	62	64	42	54	60	61	59	49	52	43	47	40	....	52.3
Howard	Maximum...	63	62	66	62	76	77	78	77	86	100	88	93	87	94	79	78	76	82	91	85	78	80	85	83	88	78	72	65	65	78	....	79.1
	Minimum...	43	33	32	40	40	52	42	42	42	57	50	50	50	57	53	57	58	58	50	48	47	39	54	55	55	44	44	40	46	40	....	47.1
Jamestown §§	Maximum...	67	70	72	70	75	61	67	78	76	98	82	86	76	86	88	72	62	72	74	81	71	72	87	71	90	79	74	69	58	73	....	75.2
	Minimum...	52	42	49	43	44	40	36	40	51	59	67	52	54	52	67	58	53	55	58	58	57	42	54	54	51	59	54	48	41	40	....	50.9
Lakota	Maximum...	66	65	60	69	85	63	65	67	71	92	89	87	71	..	..	70	72	73	74	72	77	79	85	77	82	74	64	68	72	75	....	[b]72.1
	Miuimum...	50	40	36	37	36	44	47	50	49	56	50	49	53	..	..	46	51	51	53	47	49	37	40	57	59	43	44	37	48	54	....	[b]46.9
Lamoine	Maximum...	65	66	66	66	76	60	69	70	74	95	80	90	85	85	83	70	61	73	77	77	77	70	84	78	88	77	71	68	56	69	....	74.2
	Minimum...	45	34	32	36	46	43	36	47	46	58	50	50	51	46	64	53	53	50	69	60	45	46	50	52	49	49	39	34	31	46	....	47.0
Langdon	Maximum...	65	64	66	71	67	60	71	62	71	93	77	78	78	80	78	67	72	73	70	74	66	77	83	68	83	71	64	57	48	66	....	70.7
	Minimum...	49	38	38	36	46	40	36	50	46	56	60	50	53	48	66	46	43	46	49	50	54	45	50	49	50	54	45	50	40	40	....	47.7
Larimore §§	Maximum...	68	67	70	74	65	60	70	70	73	94	82	75	75	81	86	70	71	76	72	82	69	75	86	65	80	74	70	65	55	68	....	72.9
	Miuimum...	55	42	42	40	50	50	38	50	48	58	65	52	58	46	66	52	48	55	56	60	50	40	53	54	52	50	50	50	38	42	....	50.3
Lisbon §§	Maximum...	70	69	73	72	80	64	65	78	82	92	82	85	83	84	86	79	65	70	75	83	70	79	85	73	84	73	78	69	74	72	....	76.5
	Minimum...	53	40	46	40	44	47	38	46	58	60	60	57	60	43	57	58	56	53	56	57	52	49	48	54	52	56	58	43	44	47	....	51.1
McHenry	Maximum...	60	73	69	70	71	63	65	75	78	96	80	82	79	80	87	88	74	80	74	80	73	74	83	80	73	67	73	75	54	74	....	74.5
	Miuimum...	40	42	39	37	40	41	49	52	43	62	62	54	56	49	47	58	54	55	57	47	49	46	59	62	61	54	46	45	36	36	....	49.3
McKinney	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	46	30	28	35	35	40	43	50	50	55	56	55	54	46	64	45	52	60	45	54	45	45	50	50	50	50	46	50	46	42	....	47.2
Maddock	Maximum...	65	64	66	68	63	63	70	69	70	96	95	85	84	93	82	75	69	71	74	76	74	73	83	81	90	89	76	68	64	72	....	75.6
	Minimum...	49	38	38	37	48	45	39	51	46	57	59	50	52	46	66	57	50	54	57	56	46	41	48	50	49	52	48	46	33	35	....	48.1
Marmarth	Maximum...	60	76	66	73	78	66	82	86	88	93	86	92	92	92	82	77	82	92	93	87	87	78	84	90	85	80	70	69	60	76	....	80.7
	Minimum...	42	37	46	41	45	40	47	53	57	58	56	56	58	57	62	55	52	56	57	58	44	54	49	62	55	43	50	49	40	39	....	50.6
Minot §§	Maximum...	61	66	68	69	75	65	80	71	78	102	85	94	70	92	79	74	63	74	87	78	75	78	83	75	91	78	72	64	61	78	....	76.2
	Miuimum...	47	37	29	32	40	39	39	43	44	51	55	51	53	47	48	46	50	51	52	52	45	42	44	49	50	48	47	46	38	39	....	45.1
Mott	Maximum...	60	72	70	65	80	65	82	88	90	98	84	96	91	92	84	80	78	78	87	80	76	64	81	85	90	84	74	73	65	74	....	79.5
	Minimum...	41	32	41	38	46	41	42	42	55	66	56	63	60	57	63	55	51	57	61	60	41	41	51	58	61	49	53	40	40	45	....	50.3
Napoleon §§	Maximum...	58	71	73	72	80	65	70	83	86	96	82	87	83	88	89	75	64	71	80	81	72	67	86	76	93	82	75	75	64	78	....	77.4
	Minimum...	47	38	48	35	50	49	36	53	56	60	59	50	54	50	67	55	50	53	58	58	45	42	55	54	50	53	52	45	36	30	....	49.6
New England	Maximum...	60	65	59	65	78	63	79	85	90	99	84	91	87	90	75	73	73	75	90	80	74	67	84	86	89	82	71	70	68	70	....	77.3
	Minimum...	45	38	49	40	47	43	46	56	59	60	55	57	62	55	66	56	55	57	63	65	44	54	48	62	59	49	55	41	47	51	....	52.8
New Salem	Maximum...	65	67	67	69	77	67	72	82	87	98	82	90	81	88	82	82	68	82	84	79	72	65	84	81	91	81	83	73	63	75	....	77.9
	Minimum...	43	36	45	36	45	47	49	54	57	60	60	56	54	50	50	55	50	62	59	57	46	45	46	55	65	65	53	40	39	38	....	50.9
Orange	Maximum...	60	69	68	71	82	69	80	87	88	95	93	93	92	88	84	75	73	83	79	75	72	83	83	90	81	80	69	68	74	83	....	79.2
	Minimum...	45	34	46	37	49	45	47	53	58	57	60	57	58	54	68	44	52	54	62	59	43	53	49	57	61	52	51	49	43	38	....	51.0
Park River	Maximum...	67	66	67	71	69	63	73	73	75	96	95	80	75	83	84	77	72	78	74	79	75	77	87	76	85	83	78	65	55	68	....	75.5
	Minimum...	53	42	39	42	51	45	43	53	48	58	62	50	51	49	68	52	45	55	54	60	51	40	55	54	52	55	52	52	40	43	....	50.5
Pembina §§	Maximum...	71	57	74	71	72	62	72	71	81	92	81	81	74	86	72	72	82	84	76	72	71	74	88	78	84	74	66	58	52	64	....	73.7
	Miuimum...	48	42	42	48	54	46	48	51	49	56	67	52	52	51	62	48	48	58	57	57	48	42	51	57	51	57	51	49	42	44	....	50.9
Steele	Maximum...	65	67	71	67	77	69	82	92	95	90	82	78	86	84	74	74	72	69	72	79	76	69	89	69	82	79	74	68	58	69	....	75.9
	Miuimum...	48	40	51	42	48	47	51	55	61	56	60	62	65	62	60	68	50	58	56	62	55	54	64	52	62	61	54	40	42	36	....	54.1
Towner	Maximum...	75	68	69	72	67	69	75	75	72	99	97	91	91	89	88	77	70	73	80	80	78	75	85	85	91	90	87	64	58	79	....	79.0
	Minimum...	40	37	34	38	50	42	40	55	50	57	54	52	53	46	64	51	51	55	59	54	52	49	43	52	55	56	54	49	42	46	....	49.4
Valley City	Maximum...	73	64	68	69	70	73	65	72	70	91	88	79	75	80	84	78	63	71	72	77	67	73	83	81	81	87	75	70	63	71	....	74.4
	Miuimum...	52	41	46	40	51	49	40	51	49	58	59	51	58	48	65	54	51	59	58	55	42	45	54	53	53	55	50	47	39	40	....	50.4
Wahpeton §§	Maximum...	73	74	72	74	80	61	68	78	70	91	80	80	84	85	84	71	67	76	71	85	70	70	84	76	81	76	76	75	60	69	....	75.4
	Miuimum...	55	42	52	50	56	55	38	54	57	54	65	50	60	53	64	60	56	56	57	59	52	44	55	56	50	60	54	48	42	40	....	53.1
Washburn	Maximum...	54	68	64	64	78	74	73	83	80	79	99	97	78	84	75	73	67	73	82	80	74	70	88	80	91	80	79	73	73	76	....	77.0
	Minimum...	45	44	48	38	56	46	44	56	57	60	58	58	59	60	56	56	52	54	63	57	50	52	54	56	56	56	55	51	41	41	....	52.1
Westhope	Maximum...	51	59	59	62	70	64	77	55	71	70	74	..	..	..	..	..	..	..	..	84	76	80	87	81	93	88	72	71	60	78	....	[b]71.7
	Minimum...	46	48	35	38	45	43	43	49	46	58	57	51	56	49	62	46	51	55	62	51	47	47	50	51	62	50	40	49	42	43	....	49.1
Williston	Maximum...	60	65	65	63	74	68	82	79	88	102	86	94	76	99	78	78	68	78	72	76	77	78	88	85	88	79	72	66	66	75	....	78.2
	Minimum...	42	38	36	37	45	40	52	58	50	60	58	67	59	58	60	53	56	60	67	56	46	60	54	58	60	48	49	45	48	45	....	52.3
Willow City	Maximum...	65	64	64	69	68	63	72	61	71	98	81	88	69	84	79	71	64	68	77	73	70	76	82	72	89	75	65	59	53	73	....	72.1
	Minimum...	47	36	32	32	32	42	40	50	46	54	58	48	53	46	65	46	45	53	58	51	46	43	46	51	51	51	50	45	38	42	....	46.6
Zap	Maximum...	68	65	60	58	73	68	76	79	78	94	86	90	76	88	83	72	67	72	82	79	72	67	85	83	84	80	75	70	65	73	....	75.6
	Minimum...	44	36	50	32	46	44	42	53	52	54	55	53	52	49	65	53	51	54	55	56	46	49	46	55	59	46	47	36	39	40	....	48.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JULY, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 31, 1918.

Departure of the Mean Temperature from the Normal, July, 1918.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JULY, 1918. No. 7.

GENERAL SUMMARY.

Although the drought which began in June continued over the greater portion of the State during the first twenty days of July, it was effectively broken by the rains of the 21st to 27th, inclusive, and the crops which had been greatly injured by the drought, especially in the western two-thirds of the State, showed a remarkable recovery during the last days of the month. Spring wheat headed short generally on account of the drought, but was filling nicely following the rains at the end of the month. Winter rye was harvested during the month and produced a rather short crop, as it matured during the dry period. Barley, oats and the late sown flax were also considerably below the average condition, but the early sown flax gave promise of an excellent crop, and the corn was in good condition and well cultivated. Generally, crops were above the average condition in the eastern third of the State, and fair to good in the western two-thirds. Considerable crop damage by hail occurred in the Red River Valley on the 1st, and in several localities, mostly in the northern half of the State, from the 21st to 27th, inclusive, but the loss from this source was less than usual.

—E. G. L.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.00 inches. The highest was 30.34 inches at Devils Lake on the 9th; the lowest was 29.47 inches at Devils Lake on the 3d.

TEMPERATURE.

The mean temperature for the State was 65.5°, or 2.0° below the normal, and 5.4° lower than the mean for July, 1917. The highest mean reported was 69.5° at Fullerton, Dickey County; the lowest was 59.8° at Langdon, Cavalier County. The highest temperature reported was 102° at Grand Rapids, LaMoure County, on the 20th; the lowest was 34° at Howard, Williams County, on the 6th, and at Marstonmoor, Stutsman County, on the 5th. The greatest monthly range of temperature was 66° at Orange, Adams County; the least was 47° at Valley City, Barnes County. The greatest daily range was 56° at Bowbells, Burke County, and at McKinney, Renville County. Usually the highest temperature occurred on the 20th, and the lowest on the 1st or 5th.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 70 per cent, the average at 7 a. m. being 83 per cent, and at 7 p. m. 57 per cent.

PRECIPITATION.

The average precipitation for the State was 2.71 inches, or 0.10 inch above the normal, and 1.05 inches more than the average for July, 1917. The greatest monthly amount reported was 6.08 inches at Energy, McLean County; the least was 0.53 inch at Westhope, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 3.14 inches at Energy, McLean County, on the 27th. The average number of days with 0.01 inch or more of precipitation was 7. The rainfall during the first twenty days of the month was scanty, nearly all of the scattering showers which occurred during this period falling on the 6th, 7th and 12th; from the 21st to the 27th, inclusive, generous showers occurred, breaking the drought which had prevailed since the 7th of June. The geographical distribution of rainfall was fairly uniform generally, although there were limited areas with amounts less than one inch, and a small area with from four to six inches.

WIND.

The prevailing direction of the wind was southeast. The average hourly velocity, determined from the records of five stations, was 9.0 miles. The greatest wind movement was 8,516 miles at Ellendale, an average of 11.4 miles per hour; the least was 5,368 miles at Moorhead, Minn., an average of 7.2 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 53 miles per hour from the north at Ellendale on the 21st.

SUNSHINE AND CLOUDINESS.

There was about the normal amount of sunshine; the average number of clear days was 14, partly cloudy days 10, and cloudy days 7

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.53	−2.08	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.

Climatological Data for July, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	66.4	−1.9	99	20	40	1	47	1.49	−1.82	0.75	0	6	16	8	7	n.	E. T. Carley.
Ashley	McIntosh	2,001	21	66.9	−1.4	99	19	38	10	49	2.10	−0.58	0.76	0	6	23	4	4	se.	R. C. Miles.
Beach	Golden Valley	2,576	12	65.6	−1.4	98	18†	36	5†	47	1.81	−0.18	1.27	0	6	16	10	5	se.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	67.8	−1.1	100	23	38	5	48	2.78	+0.80	0.88	0	9	20	5	6	e.	C. L. Hall.
Bierman	Slope	.....	2	66.3	.....	94	2	43	4	43	3.78	.....	1.35	0	4	15	6	10	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	68.0	−2.2	97	31	44	29	41	2.09	−0.05	0.68	0	7	14	11	6	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	64.0	−1.7	100	20	40	5	50	1.57	−0.98	0.57	0	8	9	8	14	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	61.8	.....	97	18†	40	5†	56	2.45	.....	0.70	0	8	19	0	12	.....	G. H. Phelps.
Bowman	Bowman	.....	4	66.2	.....	101	31	38	5	52	1.61	.....	0.80	0	3	18	7	6	nw.	M. W. Madsen.
Buford	Williams	1,944	39	68.2	−1.2	100	31	40	5	43	2.15	+0.45	0.61	0	5	17	13	1	ne.	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	2.75	+0.10	0.75	0	9	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	67.1	.....	100	31	40	8†	50	1.68	.....	1.05	0	5	11	17	3	nw.	J. W. Evens.
Colgate	Steele	1,177	4	67.0	.....	96	21	39	1	52	2.43	.....	0.55	0	7	18	6	7	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	1.05	−1.85	0.51	0	5	23	8	0	ne.	S. Friswold.
Crosby	Divide	1,954	11	65.1	−0.5	94	18	42	5	35	3.67	+1.81	1.70	0	8	11	9	11	se.	John Jensen.
Devils Lake	Ramsey	1,478	14	63.2	−4.9	94	20	40	10	39	2.81	−0.97	0.97	0	9	11	10	10	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	67.2	−0.7	99	31	40	5	45	1.73	−0.55	0.62	0	5	16	1	14	se.	J. C. Thysell.
Donnybrook	Ward	1,760	19	65.3[b]	−0.2	97[b]	20	40[b]	10†	48[b]	1.63	−1.33	0.58	0	5	.....	.....	.....	e.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	2.97	.....	1.22	0	6	10	16	5	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	62.8	−1.1	96	20	40	16†	45	3.37	+0.96	1.65	0	8	8	12	11	se.	J. G. Lamont.
Eekman	Bottineau	.....	13	64.2	−1.6	99	20	38	9†	50	1.97	−0.73	0.68	0	8	9	15	7	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	66.6	−1.9	101	20	39	11	48	3.32	+0.53	1.23	0	6	2	24	5	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	20	66.2	.....	97	19	42	10	43	2.64	.....	0.73	0	9	5	18	8	ne.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	6.08	.....	3.14	0	8	5	20	6	se.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	3.16	.....	0.69	0	9	10	14	7	se.	M. E. Uggen.
Fessenden	Wells	1,610	6	62.3	.....	97	20	36	10	47	3.14	.....	0.85	0	10	18	3	10	ne.	G. T. Seymour.
Forman	Sargent	1,249	26	69.2	0.0	97	20	40	5	44	2.19	−0.73	0.70	0	9	9	14	8	ne.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	2.03	.....	0.90	0	7	9	19	3	se.	Verne King.
Fullerton	Dickey	1,439	20	69.5	+1.7	97	19†	38	29	46	2.89	−0.38	0.80	0	7	17	11	3	s.	F. O. Alin.
Garrison	McLean	1,901	23	65.3	−2.5	94	20	42	5	44	4.13	+1.78	1.18	0	8	13	13	5	ne.	G. L. Robinson.
Grafton	Walsh	827	26	62.6	−4.8	94	20	40	1†	45	3.11	+0.58	0.77	0	9	20	5	6	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	64.8	−2.4	95	20	43	1	39	4.04	+1.45	1.42	0	8	19	6	6	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	67.0	.....	102	20	40	1	49	3.33	.....	1.65	0	6	17	9	5	nw.	G. H. Leick.
Granville	McHenry	1,504	11	65.2	−1.9	96	21	42	7†	47	2.88	+0.72	0.96	0	6	9	14	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	61.8	−2.2	91	19†	38	29	45	3.62	+1.21	1.12	0	7	15	8	8	s.	J. Moffatt.
Hansboro	Towner	1,597	10	60.8[b]	.....	89[b]	23	35[b]	7	47[b]	3.63	.....	1.25	0	8	11	14	6	s.	C. E. Blackorby.
Hettinger	Adams	2,253	10	67.6	−2.4	98	2	38	5	46	3.17	+0.21	1.73	0	7	9	15	7	se.	U. J. Downey.
Hillsboro	Traill	901	12	65.6	−3.9	98	20	42	1	39	1.22	−1.58	0.34	0	8	15	14	2	n.	F. E. Mayall.
Howard	Williams	2,275	11	62.6	−2.5	96	18	34	6	46	2.35	+0.67	0.51	0	8	9	17	5	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	67.2[b]	−1.0	100[d]	20	39	1	51[d]	2.79	−0.03	0.90	0	10	12	3	16	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	62.6[b]	−2.8	91[b]	20	37[b]	28	47	2.48	−0.50	1.07	0	5	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	62.4	−3.5	95	20	38	5†	40	4.65	+1.94	2.40	0	8	13	10	8	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	22	59.8	−4.6	89	23	38	29	41	3.92	+1.37	1.16	0	8	15	4	12	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	64.2	−2.0	95	20	42	6	40	3.12	+0.09	1.55	0	9	8	11	12	nw.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	40	1†	.....	1.20	.....	0.95	0	3	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	68.1	−0.1	98	20	43	18	48	2.86	−0.69	1.15	0	6	23	5	3	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	4.34	.....	1.95	0	7	9	18	4	nw.	R. M. Rishworth.
McHenry	Foster	1,509	8	64.0	.....	92	20	42	2	40	3.25	.....	1.44	0	10	16	10	5	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	65.6	−0.1	100	20	36	16	56	2.31	+0.24	0.63	0	6	.....	.....	.....	se.	N. P. Swenson.
McLeod	Ransom	1,075	6	66.3	.....	97	20	42	1†	42	3.56	.....	1.00	0	10	22	4	5	nw.	R. D. Markland.
Maddock	Benson	1,604	3	63.8	.....	95	20	36	10	43	3.00	.....	1.04	0	7	6	14	11	se.	F. P. Cowing.
Mandan	Morton	1,644	4	67.4	.....	98	20	43	29	43	2.47	.....	0.85	0	6	15	5	11	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	65.6	−1.0	96	20	40[a]	10	44[a]	3.61	+1.32	1.90	0	7	14	14	3	se.	P. B. Anderson.
Marmarth	Slope	.....	9	66.1	.....	97	31	40	4†	42	2.10	.....	1.15	0	5	13	11	7	e.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	65.0	.....	97	20	34	5	47	2.25	.....	0.70	0	7	.....	.....	.....	e.	H. H. McCumber.
Mayville	Traill	975	22	66.4	−2.7	100	20	42	6†	46	2.11	−1.25	0.55	0	6	21	3	7	n.	W. C. Gould.
Melville	Foster	1,590	20	65.8[g]	−1.9	101[g]	20	42[g]	29	51[g]	2.32	−0.51	0.90	0	7	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	2.45	.....	1.56	0	6	20	2	9	nw.	Hj. Edman.
Minot	Ward	1,557	22	62.0	−6.0	97	20	37	16†	53	3.11	+1.15	0.86	0	10	13	8	10	e.	W. I. Faris.
Minto	Walsh	820	25	64.8	−2.3	96	20	42	1	42	2.88	+0.09	0.75	0	10	15	8	8	n.	C. M. Evans.
Mott	Hettinger	2,424	11	68.6	−0.1	100	31	43	4†	42	1.78	−0.60	1.22	0	6	14	9	8	e.	O. H. Opland.
Napoleon	Logan	1,955	26	66.8	−1.3	101	31	38	29	52	1.33	−1.15	0.47	0	8	19	7	5	se.	C. J. Iloof.
New England	Hettinger	2,400	24	65.8	−2.4	93	19	42	5	40	2.27	+0.49	0.66	0	7	22	7	2	nw.	R. S. Lowis.
New Salem	Morton	2,163	13	66.3	−2.8	99	19	38	10	51	2.29	−0.02	1.11	0	4	22	6	3	.....	J. Christiansen.
Orange ††	Adams	2,586	9	67.8	.....	101	31	35	5	49	0.92	.....	0.53	0	5	5	18	8	ne.	T. F. Young.
Park River	Walsh	998	14	64.6	−3.2	92	20	37	12	44	4.09	+1.60	0.92	0	14	12	10	9	nw.	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	1.99	.....	0.59	0	4	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	64.6	−2.8	97	20	42	29	39	2.68	+0.09	0.84	0	7	10	13	8	sw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	3.36	.....	0.93	0	6	14	10	7	nw.	C. Frank.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	.....	.....	1.88	.....	0.65	0	5	24	1	6	.....	E. H. Senechal.
Steele	Kidder	1,857	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. S. Wood.
Taylor	Stark	2,493	2	66.8	.....	99	31	42	8	41	1.89	.....	0.91	0	6	11	17	3	se.	H. Leutz.
Towner	McHenry	1,482	16	66.1	−0.8	97	20	41	9†	42	2.42	−0.18	0.95	0	5	11	12	8	se.	B. Bagley.
Valley City	Barnes	1,245	.....	65.7	.....	92	31	45	1†	42	1.82	.....	1.04	0	5	16	9	6	nw.	R. Bruns.
Wahpeton	Richland	962	24	68.0	−1.2	100	20	43	1†	42	3.79	−0.27	0.95	0	9	20	3	8	se.	F. E. Smith.
Walhalla	Pembina	966	11	63.0	−3.7	92	23	40	27	44	3.67	+0.47	1.01	0	10	13	12	6	w.	Ivan Lee.
Washburn	McLean	1,734	19	67.4	−1.7	95	18	45	26†	40	4.65	+2.35	1.42	0	6	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	66.0	+0.3	98	20	42	29	51	0.53	−1.53	0.26	0	4	21	6	4	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	66.2	−3.2	96	18	44	5	41	2.27	+0.24	0.57	0	9	10	14	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	62.6[a]	−2.8	94[a]	20	36[a]	10	44[a]	2.60	+0.43	1.00	0	6	.....	.....	.....	e.	M. A. Ostby.
Zap	Mercer	1,800	5	64.4	.....	94	20†	36	5	49	4.80	.....	1.49	0	10	12	14	5	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	67.7	−1.0	99	20	46	1	38	2.68	−1.06	0.98	0	8	22	5	4	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	65.5	−2.0	102	20	34	6	56	2.71	+0.10	3.14	0	7	14	10	7	se.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for July, 1918.

Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red							.01	.02					.01							T.		.25			.45			.75				1.49
Ashley	Missouri						T.	.05						.35						T.		.45	.06		.76	.43							2.10
Beach	Lit. Missouri											.18	.12									.02			.20	1.27		.02					1.81
Berthold Agency	Missouri			.02			.67					.47	T.					T.			.05	.17		.11	.14	.88		.27	T.			T.	2.78
Bierman	Lit. Missouri			T.								.73					1.35							1.00	.70							3.78
Bismarck ***	Missouri			T.			.23					.09	.13								T.	.30		.49	.19	.66							2.09
Bottineau ‖ ‖	Mouse				T				.11				.02	.10							T.	.27			.33	T.	.57	.13	.04				1.57
Bowbells ‖ ‖	Mouse							.27					.28	.03								.47			.44	.12	.70	.14					2.45
Bowman	Grand							T.				.80				T.					T.	T.		.26		.55							1.61
Buford	Missouri						.61					.21										T.		T.	.43	.55		.35					2.15
Cando	Sheyenne			.40				.10					.70	.02								.04			.46	.75	.08	.20					2.75
Carson	Heart						.11							.02							.05				.45	1.05							1.68
Colgate	Sheyenne							.07						.15								.28				.51	.25	.55		.62			2.43
Cooperstown	Sheyenne												.07									.05				.37		.51				.05	1.05
Crosby	Mouse			.09			.35					.01										.70		1.70	.20	.44		.18					3.67
Devils Lake ***	Sheyenne	T.		.22				T.	T.				.45			T.						.26		.21	.02	.96	.01	.67	.01				2.81
Dickinson ‖ ‖	Heart			T.	T.			.01					.40							T.		T.			.62	.32	.38						1.73
Donnybrook	Mouse						.34						.21									.25			.25	.58							1.63
Dunn Center	Knife						.28						.42						.03			T.		.07		1.22	.95						2.97
Dunseith	Mouse			.20				.15					.53									.16			1.65	.45		.20	.08		T.		3.37
Eckman	Mouse						.04						.28									.23		.34	.20	.68	.02	.18	T.				1.97
Edgeley	James						.05	.69														1.23	.80		.40	.15		T.					3.32
Ellendale	James						.21	.12					.02							T.	.63	.28	T.		.46	.18		.73				.01	2.64
Energy	Missouri			T.			.34	T.				.25	.37			T.		T.		T.	T.	.34		.26	.29	1.09		3.14	T.				6.08
Epping	Missouri			T.			.30	.01				.12										.60	.42	.23	.12	.67		.69					3.16
Fessenden ‖ ‖	James							.09	T.				.15	.32							.03		.09		.20	.40	.85	.27	.74	T.			3.14
Forman	Sheyenne	.05					.03	.06													.70	.33			.70	.01		.29				.02	2.19
Fryburg	Lit. Missouri			.11			T.					.30							.23			T.		.02	.43	.90		.04	T.				2.03
Fullerton	James			.26			.55														.48	.80			.26	.19		.35					2.89
Garrison	Missouri		T.	T.			.60	.05				1.18					.05					.14			.39	.86		.86	T.				4.13
Grafton ‖ ‖	Red				.43			.77						.52						.02			.08		.15		.60	.06	.48				3.11
Grand Forks	Red	.45		.29			.94						.10	T.					.04		T.	T.			.05	.75		1.42	T.				4.04
Grand Rapids	James						.72														.25	1.65	.14		.17	.40							3.33
Granville	Mouse			T.			.18						.96					T.					.10			.44	.84		.36	T.				2.88
Hannah	Pembina			T.				.23				1.08							.06			.13			1.12	.76		.24					3.62
Hansboro	Red			.15				.25				1.25								.08		.10		.90		.65		.25					3.63
Hettinger	Grand						.14	.05				.15					1.73								.30	.79	.01						3.17
Hillsboro	Red							.09					.07	.23					.04		T.		.06		T.	.32		.07	.34				1.22
Howard	Missouri			.01			.31	T.				T.		T.	T.	T.					T.	.39		T.	.51	.63	.01	.48	T.			.01	2.35
Jamestown ‖ ‖	James							.05	.25				.03	.04									.31		.04	.67		.15	.35	.90			2.79
Lakota	Sheyenne			.36				T.					.35		T.	T.					T.	.13				1.07		.57					2.48
Lamoine	Missouri						*	.56					.36									.05		*	.25	1.03		2.40					4.65
Langdon ‖	Pembina				T.				.19					1.16							.10		.18		1.60		1.05	.07	.17				3.92
Larimore ‖	Red	.02			.45				.10					.15						.01			.06		.02	T.	.76	T.	1.55				3.12
Linton	Missouri						T.					T.										.15			.95	.10							1.20
Lisbon ‖	Sheyenne		T.					1.15	T.					.03								.61	.44			.32	.31		T.				2.86
McClusky	Missouri						.30	.05					.28									.21			.30	1.25		1.95					4.34
McHenry	James			.20			.05	.03					.10	T.		.03						.05			.05	1.44		1.25	T.			.05	3.25
McKinney	Mouse							.32						.15									.61			.45	.63		.15				2.31
McLeod	Sheyenne						.06	.50					.07	.20							.05	1.00	.52		.72	.04			.40				3.56
Maddock	Sheyenne												.35	.02								.26			.31	1.04	.02	1.00					3.00
Mandan ‖	Missouri							.20					.14										.14		.85	.76	.38						2.47
Manfred	Sheyenne						.10	.02					.28									.07			.24	1.00		1.90	T.				3.61
Marmarth	Lit. Missouri			.01								.60				T.					.05			.29	T.	1.15							2.10
Marstonmoor	James			.12			.28	T.					.17									.08			.20	.70		.70					2.25
Mayville	Red				.15									.33								.42				.54		.55	.12				2.11
Melville	James			.12			.20	T.					.10									.20			.10	.70		.90					2.32
Milnor	Red	T.					T.	.31					T.	.15								1.56			.20	.05			.18				2.45
Minot ‖	Mouse				.02			.35					.30	.27									.08	.03	.56	.01	.86	.63					3.11
Minto	Red	.05		.75				T.	.56				.20					T.		.13			.08		.10	.68		.30	.03				2.88
Mott	Cannon Ball						.03					.03	.32				.03		T.					.15		1.22							1.78
Napoleon ‖	Missouri						.01	.47					.05	.03									.07		.18	.44	.08						1.33
New England	Cannon Ball												.58						.03			.13	.02		.66	.45	.40						2.27
New Salem	Heart						.06						.54									T.			.58	1.11							2.29
Orange	Cannon Ball							.06					.09				.12							.12		.53							0.52
Park River	Red	.03			.45			.07	.05				.77	.15	T.				.02	.08		T.	.06		.31	.87	.04	.27	.92				4.09
Parshall	Missouri						.59					.26										.54		.60									1.99
Pembina ‖	Red				.20				.20					.84							T.	T.			.20		.48		.54	.22			2.68
Powers Lake	Missouri			T.			.34	T.					.54									.93			.55		.90	.10				T.	3.36
Sanish	Missouri					.45						.20													.30	.65		.28					1.88
Steele	Missouri																																
Taylor	Heart						.04					.18	.53												.04	.19	.91						1.89
Towner	Mouse						T.						.95									.10			.35	.65		.37					2.42
Valley City	Sheyenne						.08						T.							.18					.17	.35		1.04					1.82
Wahpeton ‖	Red				.02			.30	.12					.51								.15	.95			.72	.60		.42				3.79
Walhalla	Pembina			.03				.73					.06	.85							T.	.04			.85	1.01	.03	.02	.06				3.67
Washburn	Missouri						.93						.63									.60			.32	1.42	.75						4.65
Westhope	Mouse												.07									.18			.26		.02						0.53
Williston ***	Missouri					T.	.55	.01				.16	.05								T.	.34	T.	.15	.24	.57		.20					2.27
Willow City	Mouse			.05				T.					.63			T.		T.				.29			1.00	.49		.14	T.				2.60
Zap	Knife			T.			.64						.97						.02	.02		.11	.08		.15	.28	1.04	1.49					4.80
Moorhead, Minn ***	Red	.98					.05		.24				.17									.38			.05	.23		.58					2.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	84	82	91	84	80	65	75	77	78	81	83	75	74	76	76	81	91	92	93	99	83	80	90	76	73	75	85	77	75	83	93	81.5
	Minimum	40	47	51	60	42	44	49	56	47	44	45	44	55	61	59	53	45	51	60	59	68	53	53	56	50	50	53	59	47	45	46	51.4
Ashley	Maximum	91	88	98	80	81	78	65	72	76	78	81	83	77	76	80	82	86	91	99	97	86	77	86	82	60	73	89	80	74	85	97	82.2
	Minimum	44	50	55	55	46	60	48	50	44	38	45	56	56	52	48	50	58	57	66	60	58	55	56	58	48	41	57	52	42	48	48	51.6
Beach	Maximum	84	91	84	75	78	71	74	79	82	82	74	86	89	82	70	68	88	98	98	91	78	83	97	77	56	56	77	75	81	94	98	81.3
	Minimum	45	54	60	39	36	53	50	36	48	46	56	58	56	59	55	55	51	51	55	66	55	44	60	41	40	40	39	50	43	54	56	50.0
Berthold Agency	Maximum	92	98	..	90	82	75	76	86	82	86	88	78	82	82	67	84	93	98	96	97	81	83	100	83	55	77	79	..	81	94	94	[b]84.8
	Minimum	47	50	..	44	38	53	52	48	53	46	49	60	54	56	59	49	48	53	53	60	56	47	59	49	46	48	..	49	40	56	51	[b]50.8
Bismarck	Maximum	88	88	97	80	80	63	70	78	77	81	82	86	80	73	76	80	88	94	96	95	85	80	93	70	55	76	85	69	77	92	97	81.6
	Minimum	53	50	65	54	47	52	52	50	54	50	53	62	59	59	58	49	51	60	63	65	59	58	59	54	45	45	59	51	44	56	56	54.5
Bottineau §§	Maximum	79	85	88	73	78	65	68	81	78	80	84	62	79	80	72	80	91	96	84	100	68	77	94	60	50	68	69	68	75	83	91	77.6
	Minimum	50	56	61	42	40	48	45	53	45	46	54	59	56	57	57	45	47	46	64	62	53	46	55	50	45	45	50	50	44	45	55	50.5
Bowbells §§	Maximum	79	90	80	75	70	67	61	72	79	82	84	67	70	73	80	83	90	97	85	91	70	97	90	60	54	70	68	75	73	85	95	77.8
	Minimum	41	44	51	45	40	41	45	40	41	43	47	51	54	50	48	41	43	48	50	62	50	41	60	44	42	40	40	42	43	45	52	45.9
Carson	Maximum	88	93	92	80	80	70	75	75	70	80	70	86	86	76	86	78	88	95	99	93	92	90	96	78	55	77	82	65	75	90	100	82.6
	Minimum	50	53	42	50	45	50	50	40	40	46	50	52	52	54	68	50	55	55	60	60	56	54	58	52	45	42	60	50	45	55	60	51.6
Crosby	Maximum	79	88	80	63	73	63	65	78	78	82	83	84	82	84	71	83	89	94	88	89	72	77	86	55	50	68	72	69	75	86	89	77.3
	Minimum	53	53	62	42	42	57	52	51	51	49	53	62	52	59	57	48	58	59	66	69	56	48	55	45	44	43	53	46	47	56	57	52.9
Devils Lake	Maximum	82	78	86	75	74	66	68	77	73	78	81	68	66	72	52	76	86	90	86	94	74	76	91	64	51	66	68	65	71	82	89	75.3
	Minimum	50	47	61	52	50	45	43	51	45	40	51	53	57	59	52	44	53	51	58	63	56	52	54	49	45	45	50	51	43	52	59	51.2
Dickinson	Maximum	86	95	89	76	79	77	81	78	79	82	78	80	89	77	77	79	87	94	97	94	81	82	94	69	55	77	79	73	79	91	99	82.2
	Minimum	53	51	63	44	40	44	52	43	45	46	54	59	55	57	60	54	52	55	63	63	58	44	60	50	44	42	62	52	43	55	54	52.2
Donnybrook	Maximum	81	89	85	72	75	69	..	80	79	82	86	76	81	..	76	79	92	95	91	97	81	88	94	73	53	70	75	70	74	90	91	[b]80.8
	Minimum	56	41	62	45	46	47	..	48	43	40	46	59	51	..	55	40	56	49	59	62	55	48	55	46	45	43	43	54	41	54	51	[b]49.8
Dunseith	Maximum	75	80	84	69	71	69	62	75	75	74	79	75	67	75	73	75	87	91	90	96	88	74	89	85	54	64	65	66	70	81	84	76.2
	Minimum	49	49	59	46	47	46	43	50	44	41	51	56	54	58	52	40	42	47	61	61	50	50	54	50	42	45	50	48	40	49	54	49.3
Edgeley	Maximum	91	86	96	97	81	79	67	79	75	79	85	81	81	75	77	75	88	94	100	101	85	78	87	65	62	70	90	81	73	82	93	82.4
	Minimum	45	41	53	49	49	47	50	50	46	41	39	57	54	53	59	45	46	58	63	58	61	55	55	57	49	45	54	55	42	47	53	50.8
Ellendale	Maximum	86	80	92	80	79	59	68	70	74	74	79	78	76	74	79	77	86	91	97	96	85	72	87	73	66	71	91	71	72	81	90	79.2
	Minimum	43	48	58	59	49	51	52	53	50	42	45	58	54	52	59	49	49	56	64	60	63	57	56	57	52	48	59	54	46	51	56	53.2
Fessenden §§	Maximum	84	82	95	78	79	64	65	77	76	78	82	82	69	74	66	77	87	95	91	97	66	77	92	59	52	70	75	67	72	84	92	77.6
	Minimum	45	40	48	46	43	46	44	49	40	36	41	44	56	56	52	41	44	51	54	61	58	49	48	52	44	41	44	49	40	45	49	47.0
Forman	Maximum	85	83	95	89	84	76	74	74	74	77	87	77	80	75	80	78	85	90	96	97	86	81	90	87	81	75	93	90	75	84	91	83.3
	Minimum	..	..	..	..	40	45	53	58	52	48	57	56	59	60	61	54	49	56	61	60	67	57	58	63	53	50	56	38	49	58	59	[d]55.2
Fullerton	Maximum	88	83	94	81	75	76	78	80	75	76	81	81	72	76	78	79	87	93	97	97	87	74	87	72	65	71	91	72	76	85	93	81.3
	Minimum	42	65	69	58	58	56	60	60	58	55	56	58	57	55	59	55	48	69	70	69	61	61	57	60	50	51	58	56	38	55	63	57.7
Garrison	Maximum	82	89	91	74	75	65	73	78	78	79	79	78	79	76	75	76	91	89	90	94	78	76	93	76	66	76	76	76	80	86	90	80.1
	Minimum	49	45	62	45	42	50	49	48	51	45	45	57	56	55	53	47	50	50	49	53	48	49	66	48	44	43	56	54	54	51	52	50.5
Grafton §§	Maximum	85	80	85	77	76	73	74	74	69	78	80	69	69	77	65	76	86	87	79	94	73	78	90	65	57	64	65	68	70	81	89	75.9
	Minimum	40	40	56	56	50	40	47	57	47	45	45	54	58	59	57	48	44	50	53	56	56	50	46	54	47	45	44	47	43	44	48	49.2
Grand Forks	Maximum	82	77	86	80	74	67	71	73	69	76	81	70	68	75	66	76	86	88	83	95	77	78	89	75	66	66	74	72	68	81	86	76.6
	Minimum	43	47	60	58	48	45	54	56	48	46	49	58	64	63	55	52	47	55	58	62	57	53	53	57	50	50	50	53	46	46	58	52.9
Granville	Maximum	81	90	92	75	77	62	72	80	80	52	86	74	75	80	70	77	86	94	87	91	96	86	76	94	70	65	67	75	65	87	92	79.2
	Minimum	49	43	62	47	42	52	42	55	42	42	50	58	58	54	56	43	50	50	60	59	63	53	44	54	48	44	48	54	52	52	57	51.1
Hannah	Maximum	76	75	81	74	68	76	74	78	70	82	81	70	65	64	72	86	82	85	91	89	76	91	90	67	59	65	64	65	67	78	85	75.7
	Minimum	44	49	52	50	40	48	47	49	40	50	55	53	46	43	56	41	50	51	55	60	54	54	56	43	40	41	42	40	38	45	52	47.9
Hansboro	Maximum	78	80	83	70	74	67	68	78	75	78	80	..	..	73	69	78	86	88	80	85	70	74	89	68	54	66	68	64	73	80	87	[b]75.3
	Minimum	41	42	58	50	36	36	35	50	40	36	45	..	..	59	51	49	49	41	59	56	50	50	48	48	40	43	43	47	37	47	53	[b]46.2
Hettinger	Maximum	77	98	96	90	83	64	64	84	78	80	80	90	89	85	83	70	73	89	93	93	88	88	92	61	57	76	79	77	78	90	97	82.0
	Minimum	41	52	61	53	38	53	53	53	43	53	64	61	53	57	59	56	56	57	59	68	55	51	61	51	46	45	54	49	45	51	50	53.2
Howard	Maximum	80	90	80	76	75	54	66	81	79	84	83	88	77	71	72	80	92	96	92	94	70	87	89	55	48	74	72	65	77	88	92	78.3
	Minimum	38	44	40	36	48	34	50	40	44	43	46	60	60	44	43	44	54	53	60	61	50	45	48	42	40	43	44	50	42	52	55	46.9
Jamestown §§	Maximum	90	92	94	89	..	..	..	..	81	84	82	82	73	77	73	79	88	92	94	100	83	80	91	66	55	75	91	71	73	84	95	[d]82.7
	Minimum	39	49	58	56	47	52	50	53	50	44	44	48	58	62	58	52	48	57	62	60	63	53	52	55	48	44	48	55	46	45	49	51.8
Lakota	Maximum	82	77	83	77	73	64	70	75	71	76	73	80	66	65	71	75	87	87	86	91	89	90	89	60	56	65	68	82	79	..	..	[b]76.1
	Minimum	52	61	56	53	49	44	49	50	41	39	43	42	57	42	50	56	40	49	49	60	50	57	50	50	45	56	48	37	48	..	..	[b]49.1
Lamoine	Maximum	81	85	94	78	74	64	66	84	74	72	80	82	71	72	67	75	83	93	90	95	80	72	93	72	55	72	80	68	70	72	80	76.9
	Minimum	41	42	58	45	38	41	44	46	45	46	47	47	51	57	52	39	45	53	56	56	54	56	58	45	40	38	51	46	50	48	54	48.0
Langdon	Maximum	81	81	81	72	72	69	66	71	71	76	81	65	66	71	61	73	85	83	72	88	63	73	89	57	51	50	61	62	69	78	84	71.7
	Minimum	46	43	46	50	47	41	45	53	42	41	43	58	55	59	55	43	44	45	61	57	51	51	50	53	44	45	45	48	38	39	50	48.6
Larimore §§	Maximum	81	80	85	75	75	68	73	72	68	76	80	65	68	72	72	74	86	86	85	95	72	75	90	68	59	64	70	70	68	78	86	75.4
	Minimum	46	50	56	64	48	42	50	58	48	48	46	60	60	61	60	54	52	52	60	60	57	50	50	62	48	49	50	53	47	48	56	53.1
Lisbon §§	Maximum	85	82	96	84	80	68	73	74	76	78	83	83	73	75	76	79	85	91	92	98	82	74	90	73	72	72	89	74	75	83	90	80.8
	Minimum	53	54	56	60	62	50	48	59	57	56	54	57	56	60	58	45	56	43	62	66	67	56	62	62	57	48	49	53	47	53	52	55.4
McHenry	Maximum	84	78	84	78	75	71	69	76	75	77	80	83	76	77	67	78	89	91	90	92	70	87	91	63	53	70	73	63	73	81	91	77.6
	Minimum	44	42	58	46	60	47	49	51	44	47	49	57	49	53	55	45	50	49	64	59	58	50	53	55	43	46	45	47	43	46	60	50.5
McKinney	Maximum	80	87	..	87	70	93	65	82	82	80	82	85	72	80	88	80	80	92	98	92	100	85	78	85	70	70	70	70	76	70	88	[a]81.3
	Minimum	50	50	..	50	50	52	50	56	52	38	40	41	60	57	58	47	36	52	42	45	62	55	44	45	46	56	45	60	57	55	50	49.8
Maddock	Maximum	82	80	89	88	76	73	64	77	76	76	81	80	74	72	74	75	85	90	89	95	94	72	91	90	60	65	69	70	70	82	89	79.0
	Minimum	42	41	60	48	46	48	44	50	41	36	42	57	57	60	52	40	42	50	54	61	55	47	49	51	43	44	49	51	41	49	53	48.5
Marmarth	Maximum	83	94	84	75	81	74	79	77	74	97	68	83	88	82	75	70	82	91	94	89	80	83	94	70	60	78	75	67	81	93	97	80.6
	Minimum	47	52	62	40	49	52	55	42	47	48	54	58	58	60	57	57	53	52	54	63	53	50	58	43	41	40	58	47	43	52	55	51.6
Minot §§	Maximum	82	90	90	75	78	61	75	80	80	83	86	72	76	79	70	79	89	96	90	97	66	78	95	58	52	71	77	66	75	89	93	79.0
	Minimum	45	40	45	44	40	45	45	49	41	40	42	46	52	49	53	37	40	49	47	58	53	40	42	52	41	39	41	46	37	39	51	44.9
Mott	Maximum	83	95	91	80	78	77	83	85	78	78	80	83	83	82	80	83	86	93	97	90	82	81	95	78	67	77	80	78	79	91	100	83.7
	Minimum	46	67	65	43	53	44	45	55	43	51	54	53	58	57	55	60	61	64	56	62	56	58	62	48	44	46	48	51	44	54	58	53.6
Napoleon §§	Maximum	94	87	100	82	82	62	72	73	77	81	84	90	79	75	79	80	96	96	100	96	90	82	94	65	58	78	94	72	78	90	101	83.3
	Minimum	42	47	60	52	45	52	48	48	47	42	46	50	53	53	55	43	45	55	63	60	58	55	54	58	47	40	56	49	38	50	51	50.4
New England	Maximum	82	90	83	73	78	62	80	75	76	75	72	80	82	72	75	72	80	91	93	91	79	78	92	54	52	75	77	64	75	89	94	77.8
	Minimum	52	52	65	46	42	54	52	44	50	45	54	60	57	59	61	57	56	56	61	69	58	53	60	48	46	44	62	54	44	52	54	53.8
New Salem	Maximum	87	91	98	78	80	78	70	80	78	80	78	85	79	76	76	89	89	95	99	95	90	80	95	86	55	68	79	80	76	90	95	83.1
	Minimum	46	44	47	48	45	49	48	40	45	38	44	42	55	52	55	44	45	58	64	56	60	50	61	50	42	44	55	48	44	49	55	49.5
Orange	Maximum	87	92	90	78	81	76	74	77	77	78	76	88	87	85	79	73	85	93	97	95	91	81	96	70	62	79	83	77	80	93	101	83.3
	Minimum	48	52	62	52	35	52	50	41	40	43	50	59	78	58	59	55	72	52	58	62	54	54	59	53	46	38	62	46	39	52	52	52.4
Park River	Maximum	84	82	85	82	74	71	73	74	74	76	82	81	67	74	73	75	86	87	88	92	91	76	91	88	62	63	64	68	70	81	89	78.2
	Minimum	46	46	55	56	51	44	48	53	50	47	49	37	60	61	58	49	51	52	60	57	55	51	50	55	47	47	44	51	45	51	55	51.0
Pembina §§	Maximum	82	81	84	74	71	71	74	73	68	84	84	71	71	76	78	84	88	88	81	97	64	78	94	64	62	62	58	62	70	80	88	76.2
	Minimum	46	52	61	57	56	56	56	61	48	48	51	57	54	52	54	46	52	51	67	58	54	48	57	58	47	47	52	48	42	50	58	53.3
Steele	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Towner	Maximum	80	86	92	87	77	75	77	79	78	80	86	85	74	75	76	77	87	91	91	97	91	76	95	90	58	69	69	74	73	85	91	81.3
	Minimum	49	44	62	46	44	52	53	55	41	41	50	58	57	59	55	42	50	50	57	63	55	46	54	52	44	46	52	41	43	53	63	50.9
Valley City	Maximum	87	80	91	87	81	71	73	68	74	80	83	74	72	79	75	79	87	77	79	86	79	79	91	79	65	74	74	76	70	79	92	78.6
	Minimum	45	48	54	57	48	45	51	53	50	46	46	52	58	60	60	50	47	56	65	61	63	59	53	57	50	49	51	56	45	47	54	52.8
Wahpeton §§	Maximum	85	81	91	82	80	80	76	77	74	79	85	85	78	76	81	79	85	89	96	100	90	78	88	88	72	72	87	81	71	81	90	82.5
	Minimum	43	52	57	64	58	46	46	57	49	43	45	53	55	56	58	51	46	52	57	61	67	58	58	60	56	52	52	58	48	49	52	53.5
Washburn	Maximum	78	88	75	72	67	68	65	78	77	77	82	80	77	78	77	80	80	95	93	93	92	80	80	85	67	73	80	77	75	90	93	79.6
	Minimum	53	50	51	55	50	51	52	50	57	50	52	60	61	57	60	58	60	62	60	65	60	58	58	52	50	55	58	58	45	50	64	55.2
Westhope	Maximum	78	87	89	86	77	62	69	81	78	81	86	78	78	81	80	82	91	96	86	98	83	78	93	70	70	70	72	67	75	89	90	80.7
	Minimum	50	47	60	55	45	47	47	47	47	49	48	60	57	78	55	57	45	[e]45	45	56	57	48	55	48	45	45	52	52	42	50	55	51.3
Williston	Maximum	83	93	81	72	76	62	69	81	75	82	79	77	84	79	69	79	91	96	92	92	70	80	92	51	50	75	74	65	79	89	96	78.5
	Minimum	54	59	55	49	44	53	54	45	58	48	60	62	54	60	56	50	59	60	60	67	55	48	51	45	45	48	58	52	46	61	57	54.0
Willow City	Maximum	76	83	85	84	76	75	72	76	75	79	83	62	69	74	65	75	86	91	80	94	64	74	92	57	50	65	68	64	..	82	86	[a]75.4
	Minimum	46	45	60	41	70	48	51	41	40	36	47	57	57	60	56	39	43	47	59	58	56	48	52	50	43	41	50	50	..	48	52	[a]49.7
Zap	Maximum	83	93	91	72	75	70	70	76	74	81	84	78	75	72	68	77	86	90	89	94	85	79	85	58	52	76	78	64	75	89	94	78.5
	Minimum	48	44	59	42	36	50	50	43	53	44	49	56	55	55	49	48	68	53	56	60	58	45	58	46	43	43	55	50	39	54	53	50.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

AUGUST, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 28, 1918.

Departure of the Mean Temperature from the Normal, August, 1913.


Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.
+3°
+6°
+5°
-3°
-6°
Statute Miles
Kilometers
Edmonton
Prince Albert
Winnipeg
White River
Port Arthur
Sault Ste Marie
Parry Sound
Father Point
Chatham
Montreal
Quebec
Portland
Nantucket
Block Isl
Long Branch
Atlantic City
Cape May
Cape Henry
Hatteras
Bermuda
Key West
Havana
Nassau
Miami
Spokane
Billings
Yellowstone Park
Boise
Pocatello
Salt Lake City
Cheyenne
Denver
Modena
Independence
Fresno
Los Angeles
Phoenix
Tucson
El Paso
Amarillo
Dodge City
Topeka
St Joseph
St Louis
Springfield
Oklahoma
Memphis
Atlanta
Augusta
Birmingham
Montgomery
Charlotte
Raleigh
Norfolk
Wilmington
Jacksonville
Tampa
Galveston
New Orleans
Corpus Christi
Brownsville
Del Rio
Abilene
Fort Worth
Dallas
Waco
Austin
Houston
Duluth
Minneapolis
Chicago
Detroit
Toledo
Cleveland
Buffalo
Toronto
Kingston
Ottawa
Sarnia
Port Huron
Grand Haven
Milwaukee
Escanaba
Marquette
Duluth
Bismarck
Huron
Yankton
Sioux City
Omaha
Kansas City
Wichita
Concordia
Hannibal
Indianapolis
Cincinnati
Louisville
Nashville
Chattanooga
Knoxville
Roanoke
Richmond
Washington
Baltimore
Philadelphia
Harrisburg
Pittsburgh
Erie
Rochester
Syracuse
Albany
Utica
Binghamton
Scranton
Wilkesbarre
Williamsport
Reading
Trenton

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., AUGUST, 1918. No. 8.

GENERAL SUMMARY.

The weather was generally favorable for the development and harvesting of the crops; the precipitation was generally ample, and the temperature averaged slightly above the normal. No frosts were reported. The harvesting of wheat, oats and barley was practically completed during the month, and these crops were good to excellent in the eastern portion of the State, and fair to good in the western portion. The threshing of rye was well advanced, and the threshing of other grains begun, at the end of the month. The heavy rainfall over some of the middle-eastern counties caused considerable damage to stacked hay and shocked grain in low places by flooding, and some damage to grain in the shock from sprouting. Several severe hailstorms did much damage to uncut grain and other crops, during the period from the 15th to the 21st, inclusive, over the section from Golden Valley, Slope and Bowman counties eastward and northeastward to Kidder and Sheridan counties. —E. G. L.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 29.92 inches. The highest was 30.22 inches at Ellendale on the 14th, and at Bismarck on the 28th; the lowest was 29.47 inches at Devils Lake on the 9th.

TEMPERATURE.

The mean temperature for the State was 66.5°, or 1.1° above the normal, and 1.3° higher than the mean for August, 1917. The highest mean reported was 72.0° at Mott, Hettinger County; the lowest was 61.6° at Hannah, Cavalier County. The highest temperature reported was 102° at Napoleon, Logan County, on the 3d; the lowest was 34° at Hansboro, Towner County, on the 11th, and at Westhope, Bottineau County, on the 4th. The greatest monthly range of temperature was 63° at Linton, Emmons County, Napoleon, Logan County, and Orange, Adams County; the least was 45° at Washburn, McLean County. The greatest daily range was 53° at Westhope, Bottineau County, on the 4th. Usually the highest temperature occurred on the 2d or 3d, and the lowest on scattering dates, but mostly on the 30th or 31st.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 70 per cent, the average at 7 a. m. being 85 per cent, and at 7 p. m. 55 per cent.

PRECIPITATION.

The average precipitation for the State was 3.35 inches, or 1.07 inches above the normal, and 2.53 inches more than the average for August, 1917. The greatest monthly amount reported was 9.30 inches at Jamestown, Stutsman County; the least was 0.87 inch at Hettinger, Adams County. The greatest amount recorded in any twenty-four consecutive hours was 6.45 inches at Jamestown, Stutsman County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 8. The geographical distribution of precipitation was fairly uniform and near the normal over the greater portion of the State, but over a considerable area in the middle-eastern portion it was unusually heavy, varying from four to over nine inches over several counties; there was also an area in the extreme northwest portion with over four inches. The greater portion of the rainfall occurred during the period from the 15th to the 22d, inclusive, and only light scattered showers during the other days of the month.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 9.3 miles. The greatest wind movement was 9,085 miles at Ellendale, an average of 12.2 miles per hour; the least was 5,401 miles at Moorhead, Minn., an average of 7.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 47 miles per hour from the west at Bismarck on the 21st.

SUNSHINE AND CLOUDINESS.

There was about the normal amount of sunshine; the average number of clear days was 15, partly cloudy days 11, and cloudy days 5.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	67.3	+1.9	105	24	2.29	+0.01	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	0.38	−1.90	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	109	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.

Climatological Data for August, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	68.7	+2.5	100	3	44	31	47	2.97	−0.11	0.75	0	11	16	3	12	nw.	E. T. Carley.
Ashley	McIntosh	2,001	21	67.6[a]	+1.7	99[a]	3	40[a]	26†	43	2.08	−0.30	0.85	0	4	.....	.....	.....	se.	R. C. Miles.
Beach	Golden Valley	2,576	12	66.0	+1.1	93	3†	39	31	45	2.71	+0.66	1.05	0	8	16	15	0	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	67.6	−0.5	95	2†	38	31	51	1.68	−0.05	0.65	0	5	20	9	2	nw.	C. L. Hall.
Bierman	Slope	.....	2	68.6	.....	92	2	41	28	33	1.43	.....	0.78	0	4	17	9	5	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	68.8	+0.7	97	3	43	31	39	2.62	+0.64	1.22	0	8	17	10	4	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	63.4	+0.3	98	3	39	31	43	3.90	+1.93	1.62	0	10	12	11	8	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	62.9	.....	90	2	40	28	41	3.87	.....	1.39	0	9	13	11	7	.....	G. H. Phelps.
Bowman	Bowman	.....	4	66.3	.....	98	2	36	31	48	1.76	.....	0.64	0	11	19	8	4	nw.	M. W. Madsen.
Buford	Williams	1,944	39	67.8	+0.9	95	2	41	14	49	3.23	+1.91	1.23	0	4	15	13	3	nw.	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	1.91	−0.46	0.58	0	11	.....	.....	.....	.....	E. T. Judd.
Carson	Grant	2,500	6	67.5	.....	98	3	40	15†	50	1.58	.....	0.90	0	5	16	15	0	nw.	J. W. Evens.
Colgate	Steele	1,177	4	65.8	.....	98	3	39	8	46	4.71	.....	2.25	0	7	11	17	3	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	7.10	+4.53	3.08	0	8	22	5	4	w.	S. Friswold.
Crosby	Divide	1,954	11	64.2	+0.5	90	3	43	13	37	4.39	+2.08	1.89	0	8	5	19	7	w.	John Jensen.
Devils Lake	Ramsey	1,478	14	65.2	+0.1	94	3	41	30	34	2.25	−0.51	1.21	0	13	12	14	5	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	67.0	+0.4	95	2†	41	28	41	2.98	+0.96	1.50	0	5	15	7	9	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	19	65.8	+0.9	91	2	41	12	41	3.65	+1.31	1.15	0	5	.....	.....	.....	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	3.48	.....	1.82	0	5	15	10	6	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	63.4	−0.1	90	3	38[a]	30	37[a]	3.81	+1.58	1.39	0	9	10	9	12	nw.	J. G. Lamont.
Eckman	Bottineau	.....	13	64.6	+1.3	91	3	39	11	40	3.40	+1.07	1.33	0	7	14	10	7	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	68.0	+1.6	98	3	42	26†	39	2.68	+0.29	0.95	0	8	5	19	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	67.6	.....	95	3	43	28	37	3.47	.....	2.00	0	12	13	10	8	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	3.09	.....	1.20	0	6	5	26	0	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	3.56	.....	1.05	0	9	16	9	6	se.	M. E. Uggen.
Fessenden	Wells	1,610	6	65.0	.....	98	3	38	30	48	5.93	.....	3.75	0	11	24	4	3	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	71.0	+3.4	100	3†	42	31	38	2.97	0.00	1.61	0	11	15	12	4	nw.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	1.48	.....	0.71	0	7	15	15	1	nw.	Verne King.
Fullerton	Dickey	1,439	20	71.2	+5.1	98	3	45	29	35	1.31	−1.61	0.50	0	3	18	7	6	nw.	F. O. Alin.
Garrison	McLean	1,901	23	65.9	+0.1	88	2†	41	30	41	3.77	+1.88	0.79	0	10	13	14	4	se.	G. L. Robinson.
Grafton	Walsh	827	26	65.1	+0.8	97	3	38	11	45	2.46	−0.24	1.15	0	9	21	6	4	s.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	67.3	+2.5	90	3	44	11	37	3.94	+1.31	1.58	0	9	21	8	2	sc.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	68.0	.....	99	3	42	26†	42	3.83	.....	1.54	0	7	23	1	7	nw.	G. H. Leiek.
Granville	McHenry	1,504	11	65.2	+1.3	90	3	41	9	42	1.47	−0.89	0.40	0	8	13	13	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	61.6	−1.0	94	3	35	11	41	1.72	−0.42	0.90	0	7	14	13	4	s.	J. Moffatt.
Hansboro	Towner	1,597	10	61.7	.....	93	3	34	11	41	4.06	.....	0.93	0	12	.....	.....	.....	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	67.4	+0.4	97	3	38	31	44	0.87	−0.58	0.38	0	6	21	7	3	nw.	U. J. Downey.
Hillsboro	Traill	901	12	69.2	+2.3	99	3	46	8†	39	3.50	+0.41	1.58	0	8	16	13	2	n.	F. E. Mayall.
Howard	Williams	2,275	11	64.7	+1.3	92	2	37	28	40	5.76	+4.08	1.57	0	10	8	14	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	67.0	+0.8	100	3	43	11	44	9.30	+6.59	6.45	0	11	19	4	8	se.	S. Calvelage.
Lakota	Nelson	1,579	17	64.0	+0.8	94	3	36	7	49	2.74	+0.26	1.71	0	5	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	63.8	−0.1	93	3	36	30†	41	3.90	+1.83	1.86	0	5	18	12	1	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	63.0	+1.3	94	3	37	11	45	2.10	−0.61	0.80	0	8	17	2	12	.....	R. T. Burke.
Larimore	Grand Forks	1,134	23	66.6	+2.6	95	3	44	11†	34	2.63	−0.35	1.25	0	10	16	6	9	sw.	G. G. Graham.
Linton	Emmons	1,711	.....	69.2	.....	101	3	38	30	46	4.95	.....	1.30	0	8	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	66.0	−0.5	100	3	41	11†	48	2.28	+0.12	1.32	0	10	16	7	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	6.63	.....	1.95	0	7	16	11	4	w.	R. M. Rishworth.
McHenry	Foster	1,509	8	64.9	.....	94	3	42	20	40	7.17	.....	2.25	0	8	23	4	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	64.4	+1.2	90	3†	40	31	48	4.58	+3.01	1.00	0	7	9	17	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	69.0	.....	94	3	43	29†	40	2.36	+0.01	0.53	0	10	12	14	5	se.	R. D. Markland.
Maddock	Benson	1,604	3	65.6	.....	91	3	38	30	40	3.31	.....	0.96	0	5	6	15	10	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	68.1	.....	95	4	44	31	41	2.03	.....	1.10	0	6	9	18	4	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	65.8	+1.6	92	3	41	30	42	5.70	+3.35	3.40	0	8	13	13	5	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	65.2[a]	.....	94[a]	2†	39[a]	31	43[a]	4.26	.....	2.68	0	8	17	11	3	w.	S. P. Crane.
Marstonmoor	Stutsman	1,945	9	64.3	.....	97	3	35	6†	50	3.10	.....	2.43	0	7	14	15	2	e.	H. H. McCumber.
Mayville	Traill	975	22	71.6[e]	+5.6	100[m]	4	45[a]	9†	45[m]	8.60	+5.37	5.20	0	7	17	8	6	nw.	W. C. Gould.
Melville	Foster	1,590	20	66.8[f]	.....	96[f]	5	42[f]	13†	40[f]	2.91	+0.76	2.24	0	4	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	2.03	.....	0.85	0	4	17	9	5	se.	Hj. Edman.
Minot	Ward	1,557	22	62.4	−2.7	87	2†	36	31	45	2.42	+0.18	0.97	0	9	13	11	7	w.	W. I. Paris.
Minto	Walsh	820	25	68.6	+4.0	98	3	40	11	40	2.71	+0.07	1.15	0	9	16	6	9	se.	C. M. Evans.
Mott	Hettinger	2,424	11	72.0	+6.0	97	1	42	30	38	1.11	−0.69	0.52	0	8	17	10	4	w.	O. H. Opland.
Napoleon	Logan	1,955	26	67.0	+0.8	102	3	39	30	39	4.70	+2.19	1.55	0	9	22	4	5	se.	C. J. Hoof.
New England	Hettinger	2,400	24	66.8	+0.4	93	2	43	30†	40	1.76	−0.14	1.19	0	7	.....	.....	.....	.....	R. S. Lowis.
New Salem	Morton	2,163	13	68.2	+1.8	96	3	38	30	44	0.94	−0.87	0.52	0	3	25	6	0	nw.	J. Christiansen.
Orange ††	Adams	2,586	9	69.0	.....	99	3	36	31	46	1.20	.....	0.27	0	7	2	20	9	nw.	T. F. Young.
Park River	Walsh	998	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Dixon.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	2.61	.....	1.65	0	6	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	65.6	+1.7	94	3	41	30	43	1.74	−0.64	0.86	0	5	8	18	5	se.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	5.72	.....	1.29	0	9	11	14	6	e.	C. Frank.
Sanish	Mountrail	2,260	4	69.8	.....	99	17	43	6	46	3.72	.....	2.00	0	5	23	1	7	e.	E. H. Senechal.
Steele	Kidder	1,857	21	66.2	−0.1	96	3	40	9	43	6.07	+3.79	3.18	0	10	13	18	0	w.	H. S. Wood.
Taylor	Stark	2,493	2	66.8[b]	.....	97[b]	17	42[b]	28	40[b]	2.34	.....	0.88	0	6	.....	.....	.....	nw.	H. Leutz.
Towner	McHenry	1,482	16	66.8	+2.5	94	3	36	30	43	1.55	−0.78	0.55	0	6	12	14	5	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	68 0	.....	101	3	46	30†	40	3.10	.....	1.50	0	3	10	18	3	se.	R. Bruns.
Wahpeton	Richland	962	24	68.2	+0.8	95	3	42	29†	48	1.79	−1.44	0.60	0	9	19	1	11	se.	F. E. Smith.
Walhalla	Pembina	966	11	63.8	−0.6	95	3	37	28	49	2.59	−0.02	1.00	0	9	10	17	4	w.	Ivan Lee.
Washburn	McLean	1,734	19	68.6	+1.3	89	4	44	30	35	3.72	+2.43	1.16	0	6	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	64.6	+0.6	90	1†	34	4†	53	2.49	+0.22	0.42	0	12	15	12	4	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	66.3	−1.6	93	2	43	7	41	3.66	+2.35	1.18	0	11	10	15	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	62.6	−1.2	90	3	36	30	40	3.38	+1.43	1.42	0	9	6	19	6	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	65.4	.....	92	2†	40	13	43	5.24	.....	1.87	0	10	11	14	6	nw	H. A. Crandall.
Moorhead, Minn	Clay	935	37	69.4	+3.5	98	3	44	29	36	4.90	+1.80	1.48	0	13	19	8	4	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	66.5	+1.1	102	3	34	4†	53	3.35	+1.07	6.45	0	8	15	11	5	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for August, 1918.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red			.01	.54		.01				.35			.43			.03			.15	.19	.41	.25		.10								2.97
Ashley	Missouri			T.	.85	.57															.48							.18				2.08
Beach	Lit. Missouri				.10	.19				.46		.01								.50	1.05	.39									.01		2.71
Berthold Agency	Missouri					.08			T.			.11				.65	T.			.24		.60						T.			T.		1.68
Bierman	Lit. Missouri											.25								.25	.78	.15											1.43
Bismarck ***	Missouri				T.	.20						T.	.26			.01		.09		.78	.03	1.22									.03		2.62
Bottineau ‖ ‖	Mouse						T.	.06					1.62	.04			.67	.16	.02	.66	.42		.20	.02	T.							.03	3.90
Bowbells ‖ ‖	Mouse						.16						.44	.24			.44	.28		.25	.07		1.39	.60									3.87
Bowman	Grand			.01	.17	.68		T.		.03		T.				.10	.01		.06	.64	.02							.04		T.		1.76
Buford	Missouri			T.						T.						.95	T.	1.23		T.		.65	.40									3.23
Cando	Sheyenne				.01					.03							.58	.12	.23	.22	.09	.13	.40								.08	.02	1.91
Carson	Heart			.90									.20					.20		.10	.18												1.58
Colgate	Sheyenne					.11				.43			.42				.40			2.25		1.00		.10									4.71
Cooperstown	Sheyenne					.15				.35			.12				.18			1.96	1.16	3.08		.10									7.10
Crosby	Mouse						.10					.11	.09			.57	.78	.01		.84		1.89											4.39
Devils Lake ***	Sheyenne		T.	.01		.01	T.			.02		.05	.01				T.	.37	.01		.83	.39	.46	.04	.01			T.				.04	T.	2.25
Dickinson ‖ ‖	Heart					.09				T.			.04					T.		T.	.12	1.24		1.50									2.99
Donnybrook	Mouse												.75				1.15	.70			.20			.85									3.65
Dunn Center	Knife									.05		.01	T.			1.10	T.				.50	T.	1.82										3.48
Dunseith	Mouse			T.			.07			T.		T.	1.39	T.			.88	.10	.12	.99	T.	.18	.05	T.				.03			T.		3.81
Eckman	Mouse												1.33				.60	.63	.21	.34		.19	.10					T.					3.40
Edgeley	James				.47	.29				.08			.33					.17	T.	.32	.95								.07				2.68
Ellendale	James		T.	1.66	.34	.24		.23		.01	T.		.26			.01	.45	T.	.02	T.	.17	T.		.04					.04	T.	T.		3.47
Energy	Missouri		T.		T.	T.			T.			.05				1.00	T.	T.		.29	.53	1.20		T.	T.			T.	T.		.02		3.09
Epping	Missouri					.15					.08		.62			.29	T.	1.05	.06	.03		.54	.74											3.56
Fessenden ‖ ‖	James			T.	T.	.06				.02			.03				.85	.18	.03		3.75	.02	.73		.04							.22	5.93
Forman	Sheyenne				.27	.50	.01			.01			.18				.33	.01	.01		1.61	.03							.01	T.			2.97
Fryburg	Lit. Missouri			T.	.17					.27						.02		T.	.08	.14	.09	.71											1.48
Fullerton	James				.38			.43					.50				T.		T.	T.									T.				1.31
Garrison	Missouri					.03				.05		T.	.03		.75	.77	.02			.63	.48	.79	.22										3.77
Grafton ‖ ‖	Red												1.15				.07	.26			.55		.26	.03				.05			.02	.07	2.46
Grand Forks	Red					.05				.78			.25				.15			.59	.37	1.58		.01				.16		T.			3.94
Grand Rapids	James				.56	.22							.25					.12			1.54	1.10							.04				3.83
Granville	Mouse			T.		T.						T.	.07				.31	.07		.40	.17	.29	.11	.05				T.			T.		1.47
Hannah	Pembina		T.							.46		T.		.06			.90			.09			*.12					T.		.06	.03	T.	1.72
Hansboro	Red									.53		.01	.93	T.			.88	.17	.77	.30	.14	.03	.15	T.				T.			.05	.10	4.06
Hettinger	Grand		.01	.01	T.	.38						.04	.28																.15				0.87
Hillsboro	Red				T.	.02	.03				.02		.05				.33			1.58	.72		.75										3.50
Howard	Missouri			T.			T.			.02		T.	.01	T.		.66	.47		.48	.04	1.16	T.	1.57	1.33				T.			.02	T.	5.76
Jamestown ‖ ‖	James	.15			.35	.25	.10			.40			.41					.02	.04	.03	6.45		1.10										9.30
Lakota	Sheyenne									T.		T.		T.			.16	T.		.26	.25	1.71		.36				T.			T.		2.74
Lamoine	Missouri								T.								.36	.46		1.86		1.07	.15								T.		3.90
Langdon ‖ ‖	Pembina									T.			.80				.20	.25	T.		.23		.25	T.	.03							.11	.23	2.10
Larimore ‖ ‖	Red					.02				.06	.06		.10	.12			.22	.14				1.25	.50		.10							.06	2.63
Linton	Missouri		.75		.55	.15	T.	.50				.20						1.30				.70	.80										4.95
Lisbon ‖ ‖	Sheyenne	.08		T.	.15	.08	.08			.11			.02	.21			.09	.14		T.	1.32	T.	T.										2.28
McClusky	Missouri									.38			.20			.90			.30	1.95		1.05	1.85										6.63
McHenry	James					.90				.05							.40	.02		2.25	1.00	2.00	.55			T							7.17
McKinney	Mouse						.70						.70				.63	.40		.80		.35	1.00										4.58
McLeod	Sheyenne	.53	T.		.50	.15	.01			.21			.09				.50				.25	.07						T.		.05			2.36
Maddock	Sheyenne																.96	.05		.55	.91		.84										3.31
Mandan ‖ ‖	Missouri					.11							.26				T.	T.	.16	.14	.26		1.10										2.03
Manfred	Sheyenne		T.		T.							.07					.81	.26		.12	3.40	.25	.67	.12								T.	5.70
Marmarth	Lit. Missouri		T.		.30	.26		T.		T.	.04					2.68	T.		.06	.73	.17								.02		T.		4.26
Marstonmoor	James									T.		.08						.10		1.53	.90	.21	.26					T.			.02		3.10
Mayville	Red			.07		.07					.11									5.20	2.00		.55	.60						T.	T.		8.60
Melville	James					.12							.10							2.24			.45								T.		2.91
Milnor	Red				.32	T.	.32			T.							.54		T.	T.	.85	T.									T.		2.03
Minot ‖ ‖	Mouse									.03			.97	.01			.43	.05			.51		.35						.05		.02		2.42
Minto	Red			T.			.23						.53				.14			.25	.30		1.15	.02						.07	T.	.02	2.71
Mott	Cannon Ball					.52							.21			.02	.07	.02		.03	.12							.12					1.11
Napoleon ‖ ‖	Missouri				.71	.70			.05				.42					.32			1.55		.85					.05			.05		4.70
New England	Cannon Ball					.22	.03			.06							.04		1.19	.09			.13										1.76
New Salem	Heart					.06						T.								.36			.52										0.94
Orange	Cannon Ball				.11	.15		.06										.27	.10		.25	.26											1.20
Park River	Red																																
Parshall	Missouri											.20	.09			1.65	.18			.37			.12										2.61
Pembina ‖ ‖	Red										.46		.86	T.			T.	.22	.10		T.	T.			T.			.10			T.	T.	1.74
Powers Lake	Missouri					.32						.13	.55			.10	1.05	.65		1.29		.40	1.23										5.72
Sanish	Missouri														2.00		.15		1.00		.20		.37										3.72
Steele	Missouri	T.				.25					.15	T.	.10					.31	.28	3.18	1.05	.70	.04			T.			T.		.01		6.07
Taylor	Heart				.15												.14			.61	.07	.49	.88										2.34
Towner	Mouse	*								T.			.07				.21			.55	.14	.35									.23		1.55
Valley City	Sheyenne		.60		T.					T.									1.50	1.00		T.											3.10
Wahpeton ‖ ‖	Red	.02			.15		.22		.02	.27			.20				.60					.23	.08										1.79
Walhalla	Pembina							.02									.32	.08		1.00	T.	T.	.20	T.	T.			.07	T.	.20	.50	.20	2.59
Washburn	Missouri											.05					1.16			.43		.93	1.00								.15		3.72
Westhope	Mouse						.42						.18	.06			.34	.26	.28	.18	.01	.14	.34	.02								.26		2.49
Williston ***	Missouri			T.	T.	.02	.24					.03	.04			.98	.04	1.06	T.	.04		1.13	.07									.01		3.66
Willow City	Mouse	T.	T.				T.			T.		T.	1.42				.30	.51	T.	.61	.05	.26	.11					.04			.08		3.38
Zap	Knife					.05				.36		.01				.47	.01	.07		.23	1.68	1.87	.49										5.24
Moorhead, Minn ***	Red			.24	.24	.06				1.26			1.48				.03		.11	.11	.09	.47	.65	.15						.01			4.90

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	94	100	96	77	85	69	83	89	89	88	83	81	87	86	82	81	81	87	83	84	79	84	89	88	83	87	89	78	77	89	85.1
	Minimum	46	53	53	62	52	55	52	49	47	47	46	50	51	47	47	51	63	63	64	63	57	57	53	53	53	53	46	46	61	45	46	52.3
Ashley	Maximum	80	85	99	89	83	78	60	78	87	80	85	78	76	82	77	82	82	77	85	85	81	77	..	88	85	83	91	80	77	70	80	[a]81.4
	Minimum	50	49	60	62	58	56	56	46	60	48	49	65	48	46	56	65	63	66	65	59	58	52	..	50	57	40	55	51	46	40	41	[a]53.9
Beach	Maximum	85	92	93	83	76	76	78	87	81	78	91	85	77	87	76	87	91	87	80	81	71	73	77	85	80	93	78	70	69	68	84	81.3
	Minimum	57	63	61	53	54	52	50	45	53	43	49	50	40	47	56	58	55	54	56	53	57	48	46	49	58	52	54	40	41	41	39	50.8
Berthold Agency	Maximum	91	95	95	91	77	79	81	89	76	81	90	77	81	90	82	78	95	90	83	84	73	73	79	87	82	92	82	71	70	72	83	82.9
	Minimum	61	61	58	53	55	54	46	49	55	45	43	57	45	41	58	59	65	64	63	63	53	53	48	51	52	41	54	45	50	40	38	52.3
Bismarck	Maximum	85	88	97	89	74	79	72	82	83	81	86	77	77	84	82	90	87	88	82	84	82	76	81	88	79	86	85	71	72	69	82	81.9
	Minimum	64	57	66	61	60	55	54	53	55	50	47	59	49	50	59	65	66	68	58	62	58	54	54	54	55	48	63	49	50	45	43	55.8
Bottineau §§	Maximum	79	84	98	80	78	76	74	86	83	79	77	67	74	83	83	70	71	81	70	78	75	70	74	84	75	82	75	68	71	69	72	77.1
	Minimum	59	54	55	55	49	52	46	47	52	54	46	55	43	44	50	54	59	61	49	49	53	53	48	48	51	47	47	42	42	39	39	49.7
Bowbells §§	Maximum	83	90	85	84	78	74	80	88	75	78	65	69	72	84	78	72	75	82	81	82	65	70	70	85	73	81	71	71	67	68	71	76.4
	Minimum	57	56	58	55	55	54	45	52	52	42	51	43	41	43	48	52	56	51	55	54	50	51	49	49	47	51	50	40	41	41	42	49.4
Carson	Maximum	90	95	98	78	70	70	70	80	80	80	86	86	76	85	90	90	88	90	88	80	80	80	80	88	82	90	90	80	88	70	80	83.2
	Minimum	60	60	66	56	54	56	54	50	50	45	50	56	45	50	40	44	40	65	60	60	60	56	50	50	50	50	50	55	45	40	40	51.8
Crosby	Maximum	84	89	90	78	76	69	81	87	70	75	68	67	74	83	68	71	78	77	75	77	68	72	73	82	74	89	70	69	63	68	70	75.2
	Minimum	57	64	62	53	49	56	44	53	59	44	53	51	43	48	56	56	56	59	55	57	55	57	56	55	54	51	59	44	48	50	48	53.3
Devils Lake	Maximum	73	78	94	84	74	77	67	82	84	78	75	75	75	85	82	68	71	77	89	80	80	71	76	87	76	70	84	89	75	66	76	77.0
	Minimum	54	49	65	62	57	52	43	51	54	50	45	55	44	51	52	61	60	34	63	60	53	55	54	57	53	50	59	47	49	41	46	53.5
Dickinson	Maximum	87	95	93	88	70	77	76	87	72	79	90	78	76	88	81	86	95	87	83	80	74	72	77	84	79	91	82	69	70	68	81	81.2
	Minimum	62	65	60	52	57	50	47	47	54	42	50	56	45	47	59	59	56	67	61	58	58	50	53	50	56	50	56	41	46	42	42	52.8
Donnybrook	Maximum	84	91	89	89	..	76	76	86	80	79	75	78	75	85	83	79	80	85	78	81	71	71	75	84	79	85	74	68	65	69	75	[a]78.8
	Minimum	58	56	66	46	..	59	41	54	60	47	51	41	44	44	54	60	57	64	57	63	50	54	53	58	56	45	60	45	51	42	48	[a]52.8
Dunseith	Maximum	84	76	90	79	75	73	69	81	82	74	74	65	71	80	80	74	66	74	78	75	75	68	74	82	79	79	75	69	68	68	69	75.2
	Minimum	59	51	56	54	51	54	41	47	62	40	46	55	56	43	56	56	58	63	57	58	51	53	49	48	54	47	55	..	47	38	39	[a]51.5
Edgeley	Maximum	89	83	98	90	87	81	78	78	89	82	84	84	75	82	77	85	80	76	84	82	80	76	80	86	83	81	91	83	80	72	82	82.5
	Minimum	59	47	64	63	59	52	46	43	61	45	45	63	49	48	47	61	62	65	65	58	55	53	53	53	59	42	58	53	43	42	44	53.5
Ellendale	Maximum	85	83	95	91	71	81	63	77	88	80	84	83	75	80	72	82	77	74	84	88	77	77	81	86	85	80	90	71	79	69	80	80.0
	Minimum	59	50	64	67	60	56	52	47	61	49	59	57	52	49	57	58	65	68	69	61	59	56	54	57	52	43	60	47	45	45	45	55.3
Fessenden §§	Maximum	80	79	98	87	75	79	70	84	84	80	86	77	78	88	83	77	72	85	76	83	80	74	79	86	77	82	85	72	74	72	78	80.0
	Minimum	58	46	50	55	56	48	42	42	50	41	41	58	41	42	47	60	60	64	64	56	50	51	51	51	54	42	60	43	45	38	40	49.9
Forman	Maximum	90	87	100	100	97	84	82	82	90	84	89	85	83	87	74	80	79	76	86	83	79	78	83	87	88	84	90	87	80	75	80	84.8
	Minimum	65	57	64	66	62	58	55	50	67	56	51	64	52	50	56	62	64	67	66	62	60	57	53	54	57	47	61	58	46	46	42	57.3
Fullerton	Maximum	87	85	98	92	74	82	67	82	90	83	87	82	74	81	77	85	77	75	87	79	80	78	82	84	87	81	90	72	80	70	80	81.4
	Minimum	66	66	64	65	62	62	59	60	61	64	60	63	62	68	59	58	67	67	68	60	65	67	53	56	65	54	59	53	45	52	53	61.1
Garrison	Maximum	84	88	88	81	76	76	72	83	76	78	85	78	84	80	74	84	82	84	74	79	72	72	84	79	85	78	79	69	72	68	79	79.0
	Minimum	60	58	63	53	54	54	46	49	59	47	46	51	43	53	57	60	59	60	54	60	59	52	56	54	55	45	57	44	43	41	45	52.8
Grafton §§	Maximum	74	81	97	87	79	80	70	84	84	80	75	78	76	83	84	70	75	82	74	78	84	75	80	82	78	79	89	78	75	72	78	79.5
	Minimum	59	47	52	55	58	48	39	40	45	44	38	53	46	48	48	58	58	65	63	61	54	59	52	51	55	40	49	47	47	46	43	50.7
Grand Forks	Maximum	80	83	98	83	76	83	68	83	82	80	78	81	76	83	81	74	76	81	75	76	83	75	88	86	78	88	76	71	75	71	78	79.5
	Minimum	57	49	63	63	61	54	46	46	59	50	44	58	49	50	53	64	62	67	66	64	57	61	55	53	56	46	59	52	51	48	45	55.1
Granville	Maximum	81	84	90	84	75	77	72	74	83	79	80	72	77	86	85	72	80	84	72	80	80	70	77	86	77	85	78	63	70	70	76	78.0
	Minimum	57	54	62	59	53	57	45	48	41	45	42	55	42	45	52	62	60	65	60	60	52	60	52	58	58	43	52	45	50	42	45	52.3
Hannah	Maximum	71	80	94	84	86	72	70	80	83	74	70	70	72	80	78	70	71	73	75	79	80	78	74	81	76	75	80	79	74	70	72	76.8
	Minimum	41	43	58	50	51	45	47	42	56	46	35	41	40	43	62	56	54	57	57	52	53	50	50	52	50	43	50	44	46	37	43	46.3
Hansboro	Maximum	70	75	93	81	74	76	73	83	87	75	75	72	72	..	..	..	..	..	..	..	..	72	75	84	75	79	77	70	71	70	70	[b]76.0
	Minimum	53	45	54	59	50	50	37	45	55	45	34	54	44	..	..	..	..	..	..	..	..	52	51	44	53	43	53	45	47	37	40	[b]47.4
Hettinger	Maximum	87	96	97	88	67	67	78	79	84	81	88	83	73	83	81	83	90	87	85	82	86	72	78	84	83	80	89	81	74	70	82	81.9
	Minimum	62	62	63	56	57	56	57	64	54	44	54	54	44	43	60	56	60	62	58	57	52	56	46	46	49	56	50	42	43	40	38	52.9
Howard	Maximum	86	92	90	87	84	71	83	88	82	81	80	74	77	76	75	70	83	82	81	80	81	70	72	74	84	77	79	68	67	70	76	78.7
	Minimum	55	56	58	52	57	52	43	49	47	43	45	50	40	41	60	57	50	56	58	56	55	54	52	58	65	50	49	37	47	45	44	50.7
Jamestown §§	Maximum	82	84	100	91	75	81	65	83	89	81	87	80	76	86	83	87	79	80	76	82	80	75	80	86	79	81	87	75	76	70	80	81.2
	Minimum	56	50	53	64	62	53	48	44	60	44	43	47	46	49	46	52	64	63	61	54	57	55	55	56	56	60	49	53	48	45	45	52.9
Lakota	Maximum	75	89	94	84	78	80	82	83	84	79	75	78	75	75	83	80	70	73	73	77	81	79	76	81	83	78	84	78	76	78	..	[a]79.4
	Minimum	55	48	45	64	37	43	36	48	37	45	40	45	40	49	50	44	60	62	63	55	56	50	50	63	44	42	58	43	46	41	..	[a]48.6
Lamoine	Maximum	87	87	93	83	70	76	68	81	83	78	84	78	73	84	78	83	76	80	65	85	78	70	73	85	74	83	80	81	70	68	69	78.1
	Minimum	60	60	60	55	52	47	46	48	48	40	47	58	40	43	51	51	60	60	50	57	51	50	48	50	54	43	45	43	47	36	36	49.5
Langdon	Maximum	69	78	94	81	74	76	65	82	83	68	68	74	72	80	83	75	68	69	71	80	79	69	77	85	78	81	82	69	73	71	71	75.7
	Minimum	56	48	49	55	52	62	39	45	59	45	37	54	45	44	52	59	57	62	60	59	50	50	50	51	55	41	59	41	41	39	41	50.3
Larimore §§	Maximum	72	80	95	89	89	80	67	80	86	77	76	85	75	82	82	75	73	80	70	74	81	71	80	84	76	72	82	71	76	76	76	78.5
	Minimum	64	47	62	62	60	50	47	47	58	46	44	62	46	50	50	62	64	64	62	60	60	56	50	58	44	60	56	50	48	44	44	54.7
Lisbon §§	Maximum	82	82	100	95	73	83	66	81	90	85	89	85	83	85	80	80	72	74	85	79	81	83	86	89	84	83	87	72	80	71	80	82.1
	Minimum	57	58	54	63	60	52	52	43	50	43	41	46	52	52	50	47	54	50	51	52	47	48	45	50	45	45	56	58	41	46	42	50.0
McHenry	Maximum	76	77	94	87	77	76	80	84	72	75	84	78	74	83	86	70	78	80	71	81	83	71	80	86	76	78	86	69	74	76	75	78.6
	Minimum	50	49	65	70	57	54	57	60	55	43	49	55	60	54	55	46	43	50	44	42	43	55	54	53	46	47	46	47	49	46	43	51.2
McKinney	Maximum	85	85	90	74	78	75	80	85	83	81	78	75	74	85	83	75	80	82	80	80	74	70	75	85	75	90	75	70	70	71	75	73.6
	Minimum	57	57	60	55	45	45	41	50	47	46	42	50	44	42	54	55	60	65	56	66	52	55	52	55	43	42	57	45	43	45	40	50.2
Maddock	Maximum	88	78	91	88	81	76	76	81	81	77	89	73	73	85	84	80	70	82	80	79	77	70	75	54	78	81	80	80	72	72	75	78.9
	Minimum	60	46	63	58	56	51	44	43	59	46	43	60	44	45	49	60	60	65	65	60	52	53	52	55	58	42	59	45	48	38	43	52.3
Marmarth	Maximum	..	94	91	94	68	72	70	82	70	78	88	74	76	83	80	82	88	83	78	77	83	72	75	82	78	90	82	70	71	67	82	[a]79.3
	Minimum	..	59	62	64	55	53	53	48	48	46	56	53	42	49	56	55	53	59	56	56	53	48	47	47	48	52	53	40	43	42	39	[a]51.2
Minot §§	Maximum	84	87	87	83	76	77	75	86	81	81	85	73	77	85	85	78	83	86	86	82	69	73	78	80	76	86	78	69	68	71	77	79.6
	Minimum	52	53	53	57	51	49	41	41	51	41	38	42	41	41	41	50	52	57	59	55	47	47	49	48	49	40	40	41	41	37	36	45.1
Mott	Maximum	97	95	96	90	78	79	76	78	78	81	90	76	80	85	84	88	96	92	91	94	83	88	88	88	89	93	83	85	84	78	85	86.1
	Minimum	68	65	63	62	57	53	52	53	56	49	58	53	43	56	63	57	61	64	62	66	60	57	54	65	64	65	60	60	57	42	55	58.0
Napoleon §§	Maximum	87	86	102	93	75	80	70	81	87	81	85	78	76	85	83	91	81	79	87	83	82	76	80	85	81	84	86	76	74	68	83	81.9
	Minimum	58	48	63	60	56	49	50	45	58	45	47	62	45	46	54	61	62	65	64	57	55	50	52	50	54	46	49	48	40	39	41	52.2
New England	Maximum	84	93	90	85	68	75	68	81	71	89	75	88	73	81	79	83	89	89	85	79	75	73	77	83	80	90	88	73	71	67	80	80.1
	Minimum	63	63	63	57	58	55	53	49	56	49	58	54	44	45	47	64	51	66	59	57	58	53	50	51	52	50	60	45	46	43	43	53.6
New Salem	Maximum	85	90	96	91	85	79	75	85	82	80	88	78	81	85	84	87	91	90	88	88	81	76	79	81	80	88	85	76	74	82	83	83.6
	Minimum	65	56	54	58	56	48	48	53	51	46	56	51	48	55	61	60	56	61	52	56	50	64	50	53	46	59	44	47	38	52	52	52.9
Orange	Maximum	89	95	99	91	81	78	67	82	79	82	88	81	78	86	83	88	91	89	90	90	87	78	82	86	84	90	89	79	77	73	82	84.3
	Minimum	76	60	57	58	54	52	54	49	53	43	52	56	48	49	60	65	60	67	64	58	58	50	46	47	49	50	57	45	45	48	36	53.7
Park River	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Pembina §§	Maximum	72	80	94	84	81	74	72	88	84	80	72	74	72	82	84	66	76	86	72	81	82	74	74	92	82	81	76	71	72	72	71	78.1
	Minimum	56	48	58	59	55	57	48	48	57	51	45	58	47	46	51	58	54	54	59	61	59	58	51	49	61	52	57	48	51	41	48	53.1
Steele	Maximum	93	94	96	94	84	78	82	79	83	79	83	78	75	76	80	84	90	87	83	79	78	83	78	84	84	82	80	78	73	76	76	81.1
	Minimum	56	58	64	62	56	54	46	49	40	48	50	50	42	48	50	60	52	52	58	55	54	52	54	50	52	48	46	45	48	45	43	51.2
Towner	Maximum	92	82	94	85	76	77	76	84	82	84	78	75	77	89	86	80	88	86	84	78	74	72	78	85	85	84	84	77	72	70	75	80.9
	Minimum	59	53	59	50	55	57	45	48	65	60	42	56	40	46	54	62	61	66	52	61	51	57	58	54	57	45	56	45	49	36	42	52.7
Valley City	Maximum	81	82	101	90	83	82	69	82	74	67	84	83	64	85	84	81	74	80	77	79	81	75	80	84	83	86	87	71	79	71	80	79.9
	Minimum	65	50	64	64	60	54	50	47	60	40	48	62	49	51	54	64	63	73	64	61	60	56	54	55	54	44	57	54	50	46	46	56.1
Wahpeton §§	Maximum	87	81	95	94	78	84	71	82	92	84	89	86	76	85	83	80	72	78	85	82	79	80	83	87	88	81	93	75	78	74	82	82.7
	Minimum	61	54	60	62	62	66	54	52	56	51	46	47	50	49	52	58	63	62	65	63	55	59	52	52	52	43	45	51	42	45	42	53.7
Washburn	Maximum	88	85	88	89	85	74	76	72	80	80	84	85	80	84	83	80	83	86	83	82	76	78	79	78	80	86	81	76	74	78	80	81.1
	Minimum	69	57	66	60	60	55	56	53	48	50	48	62	50	46	57	60	64	71	64	65	65	54	53	55	48	62	61	46	50	44	45	56.1
Westhope	Maximum	90	85	90	87	79	75	76	75	87	78	72	69	75	86	85	76	76	82	75	83	71	70	76	86	77	84	76	70	71	70	72	78.3
	Minimum	54	53	58	34	47	57	45	48	57	48	46	54	42	42	40	60	61	60	58	63	50	56	50	56	55	45	54	44	50	42	45	50.8
Williston	Maximum	87	93	86	80	76	71	80	87	75	78	86	72	77	86	71	71	83	80	78	81	72	68	76	83	77	87	74	68	67	68	78	77.9
	Minimum	59	69	64	59	52	54	43	58	54	52	55	53	45	45	60	60	58	60	57	59	54	54	55	57	57	56	53	46	50	48	51	51.7
Willow City	Maximum	74	81	90	81	73	74	71	82	82	76	75	66	72	80	80	66	74	80	73	75	72	67	74	81	72	80	76	69	68	66	70	74.8
	Minimum	56	48	53	51	51	55	40	42	60	45	40	56	43	48	52	59	60	66	59	59	49	54	48	51	52	43	52	51	46	36	40	50.5
Zap	Maximum	83	92	89	83	73	77	75	85	67	78	87	79	77	75	80	79	92	90	77	81	76	74	79	85	77	89	81	70	70	69	80	79.6
	Minimum	63	59	59	52	53	57	46	45	50	45	45	53	40	41	56	56	63	61	62	57	59	48	48	51	53	46	53	40	48	41	41	51.3

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
NO RAIN
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEPTEMBER, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 7, 1918.

Departure of the Mean Temperature from the Normal, September, 1918.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., SEPTEMBER, 1918. No. 9.

GENERAL SUMMARY.

Weather which was exceptionally favorable for threshing and for late harvesting prevailed in all parts of the Section. Farm work, with the single exception of fall plowing, made excellent progress. Owing to the lack of moisture less than the usual volume of fall plowing was accomplished. Some complaints were received of the dryness interfering with the seeding of winter rye, and it is believed that a slightly reduced acreage over what would have been put in under more moist circumstances will result. The acreage of this crop, however, will exceed that of the preceding season. Threshing made good progress, and yields were generally somewhat above expectations. Flax was damaged by freezing temperatures in some sections. This condition is also true as to late planted corn, much of which in the central and western portions was cut for silage. Pastures were short at the close of the month, although livestock was generally in fine condition.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.12 inches. The highest was 30.57 inches at Bismarck on the 9th; the lowest was 29.68 inches at Williston on the 7th.

TEMPERATURE.

The mean temperature for the State was 51.9°, or 4.5° below the normal, and 4.5° lower than the mean for September, 1917. The highest mean reported was 55.4° at Sanish, Mountrail County; the lowest was 46.1° at McHenry, Foster County. The highest temperature reported was 93° at Beach, Golden Valley County, on the 22d; the lowest was 11° at Bowman, Bowman County, on the 11th, and at Marstonmoor, Stutsman County, on the 29th. The greatest monthly range of temperature was 80° at Bowman, Bowman County; the least was 52° at Devils Lake, Ramsey County. The greatest daily range was 59° at New Salem, Morton County, on the 21st. The first and third decades were the warmest, and the second the coldest, the highest temperature usually occurring on the 7th or 22d, and the lowest on the 19th to 21st, inclusive.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 68 per cent, the average at 7 a. m. being 84 per cent, and at 7 p. m. 53 per cent.

PRECIPITATION.

The average precipitation for the State was 0.39 inch, or 1.25 inches below the normal, and 0.69 inch less than the average for September, 1917. The greatest monthly amount reported was 1.43 inches at Larimore, Grand Forks County; there was none at Linton, Emmons County, and Sanish, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 0.81 inch at Hannah, Cavalier County, on the 28th. The average number of days with 0.01 inch or more of precipitation was 3. The distribution of precipitation was uneven, both throughout the month and geographically. The stormiest periods were the 1st to 4th, inclusive, 14th to 18th, inclusive, 23d-24th, and the 29th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 8.9 miles. The greatest wind movement was 9,183 miles at Ellendale, an average of 12.8 miles per hour; the least was 5,074 miles at Moorhead, Minn., an average of 7.0 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 44 miles per hour from the east at Ellendale on the 23d.

SUNSHINE AND CLOUDINESS.

There was considerably more than the usual sunshine; the average number of clear days was 15, partly cloudy days 9, and cloudy days 6.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.28	−1.36	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	3.01	+1.37	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.

Climatological Data for September, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	53.1	−4.2	82	1†	19	21	57	0.15	−1.90	0.10	0	2	14	5	11	nw.	E. T. Carley.
Ashley	McIntosh	2,001	21	54.4	−2.9	85	12	17	20	48	0.17	−0.90	0.12	0	2	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	53.6	−2.5	93	22	16	19	55	0.28	−1.29	0.28	0	1	16	7	7	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	54.0	−3.6	92	12	22	18	56	0.38	−1.10	0.21	0	3	22	5	3	nw.	C. L. Hall.
Bierman	Slope	.....	2	54.4	.....	88	13	24	19	44	0.50	.....	0.15	0	5	11	3	16	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	53.9	−3.2	87	22	26	20	46	0.47	−0.72	0.30	0	5	15	7	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	52.4	−3.3	82	7	24	30	40	0.35	−1.44	0.16	0	4	12	7	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	49.4	.....	83	21	19	30	53	0.28	.....	0.21	0	2	12	5	13	.....	G. H. Phelps.
Bowman	Bowman	.....	4	53.8	.....	91	22	11	19	55	0.30	.....	0.26	0	2	15	2	13	nw.	M. W. Madsen.
Buford	Williams	1,944	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	0.34	−1.21	0.11	0	4	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	6	52.6[a]	.....	88[a]	12	20[a]	19	48[a]	0.63	.....	0.20	0	4	.....	.....	.....	nw.	J. W. Evens.
Colgate	Steele	1,177	4	49.6	.....	80	7†	17	20	53	0.04	.....	0.04	0	1	18	12	0	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	0.40	−1.34	0.30	0	2	26	2	2	nw.	S. Friswold.
Crosby	Divide	1,954	11	51.0	−2.6	81	7	23	19	42	0.15	−1.22	0.12	0	3	9	17	4	w.	John Jensen.
Devils Lake	Ramsey	1,478	14	50.4	−5.2	79	7	27	9	40	0.48	−0.91	0.28	0	6	9	15	6	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Thysell.
Donnybrook	Ward	1,760	19	53.0[a]	−1.8	84[a]	7†	22[a]	9†	42[a]	0.17	−1.85	0.17	0	1	11	17	2	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.36	0	3	17	11	2	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	50.2	−4.6	78	7	24	9	43	0.51	−1.14	0.28	T.	5	12	9	9	n.	J. G. Lamont.
Eckman	Bottineau	.....	13	49.9	−5.6	83	7	18	9†	51	0.45	−0.85	0.45	0	1	13	9	8	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	52.8	−4.7	84	7	19	20	45	0.07	−1.75	0.07	0	1	7	18	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	52.5	.....	83	12	21	20	47	0.14	.....	0.14	0	2	13	9	8	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.46	.....	0.20	0	2	11	17	2	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.17	0	3	17	10	3	w.	M. E. Uggen.
Fessenden	Wells	1,610	6	51.0	.....	80	6†	19	20	50	0.13	.....	0.10	0	2	22	5	3	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	54.2	−4.9	84	7	20	20	48	0.07	−1.75	0.07	0	1	17	13	0	nc.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.35	0	2	17	12	1	w.	Verne King.
Fullerton	Dickey	1,439	20	55.1	−1.3	82	12	20	20	41	0.18	−2.11	0.18	0	1	21	8	1	nw.	F. O. Alin.
Garrison	McLean	1,901	23	52.2	−4.7	83	22	23	9†	46	0.92	−0.43	0.52	0	5	18	10	2	ne.	G. L. Robinson.
Grafton	Walsh	827	26	50.9	−5.0	79[a]	27	20	20	49[a]	1.25	−0.66	0.31	0	8	.....	.....	.....	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	50.7	−5.3	79	8†	23	20	46	0.46	−1.54	0.11	0	8	19	9	2	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	52.1	.....	81	7†	13	20	51	0.28	.....	0.28	0	1	18	3	9	nw.	G. H. Leick.
Granville	McHenry	1,504	11	51.0	−3.4	88	13	20	20	49	0.23	−1.16	0.11	0	3	17	8	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	49.8[c]	−4.7	79[a]	7	26[a]	3	41[b]	0.81	−1.38	0.81	0	1	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	10	48.8	.....	83	7	16	20	47	0.49	.....	0.20	0	5	11	15	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	54.4	−3.8	85	12†	23	15	55	0.33	−1.35	0.20	0	7	17	6	7	nw.	U. J. Downey.
Hillsboro	Traill	901	12	51.8	−7.2	78	1†	22	20	42	0.66	−2.07	0.24	0	6	13	15	2	n.	F. E. Mayall.
Howard	Williams	2,275	11	51.2	−2.4	82	7†	20	19†	46	0.02	−1.44	0.02	0	1	11	13	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	52.8	−3.9	80	22	19	20	47	0.11	−1.43	0.10	0	2	13	4	13	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	48.5[d]	−6.6	78	7	18	20	50	0.64	−0.55	0.34	0	3	.....	.....	.....	nw	C. R. Pettes.
Lamoine	Kidder	1,936	10	50.4	−6.2	80	22	19	20	44	0.27	−1.34	0.25	0	2	24	5	1	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	49.1	−4.3	87	26	22	10	55	1.02	−1.09	0.28	0	7	16	5	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	49.5	−5.4	76	6	22	20	43	1.43	−0.22	0.70	0	10	10	10	10	.....	G. G. Graham.
Linton	Emmons	1,711	.....	53.8	.....	89	25	20	19	44	0.00	.....	0.00	0	0	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	51.6	−6.1	82	22	15	20	51	0.26	−1.96	0.20	0	2	27	3	0	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.10	0	3	.....	.....	.....	nw.	R. M. Bishworth.
McHenry	Foster	1,509	8	46.1	.....	78	6	22	20†	40	0.12	.....	0.10	T.	2	15	6	9	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	51.7	−2.0	81[a]	7	20	9†	49[a]	0.40	−1.22	0.30	0	2	11	18	1	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	52.2	.....	82	8	19	20	50	0.32	.....	0.10	0	6	10	17	3	nw.	R. D. Markland.
Maddock	Benson	1,604	3	51.4	.....	80	7	16	20	47	0.17	.....	0.17	0	1	9	14	7	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	52.9	.....	87	12	22	20	53	0.63	.....	0.40	0	4	13	11	6	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	51.2	−4.7	80	7	23	20	43	0.19	−1.27	0.15	0	2	14	13	3	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	53.1	.....	90	22	19	19	49	0.52	.....	0.32	0	4	13	2	15	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	49.3	.....	83	12	11	29	56	0.20	.....	0.10	0	4	13	16	1	nw.	H. H. McCumber.
Mayville	Traill	975	22	52.1	−4.4	80	8	21	20	43	0.86	−1.70	0.42	0	3	19	4	7	n.	W. C. Gould.
Melville	Foster	1,590	20	52.6[e]	−3.6	83[e]	27	26[e]	29	50[e]	0.43	−0.91	0.43	0	1	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.14	0	1	17	8	5	nw.	Ilj. Edman.
Minot	Ward	1,557	22	51.3	−5.7	85	7	17	30	54	0.25	−1.41	0.15	0	4	16	4	10	nw.	W. I. Faris.
Minto	Walsh	820	25	49.7[a]	−6.7	80[a]	27	24[a]	21	45[b]	1.08	−1.03	0.36	0	5	13	10	7	n.	C. M. Evans.
Mott	Hettinger	2,424	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. H. Opland.
Napoleon	Logan	1,955	26	52.4	−4.5	88	22	18	20	50	0.32	−0.98	0.15	0	4	17	6	7	n.	C. J. Hoof.
New England	Hettinger	2,400	24	53.7	−2.2	81[a]	7†	18	19	50[a]	0.29	−0.90	0.16	0	2	25	4	1	nw.	R. S. Lowis.
New Salem	Morton	2,163	13	53.6	−3.7	89	12	21	19	59	0.62	−0.89	0.28	0	6	21	7	2	ne.	J. Christiansen.
Orange ††	Adams	2,586	9	53.2	.....	90	22	14	19	52	0.16	.....	0.16	0	1	8	14	8	nw.	T. F. Young.
Park River	Walsh	998	14	51.6[d]	−5.3	79[d]	27	26[d]	20	44[d]	0.71	−0.91	0.50	T.	4	.....	.....	.....	nw.	J. P. George.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.33	.....	0.33	0	1	10	15	5	ne.	C. Frank.
Sanish	Mountrail	2,260	4	55.4	.....	86	7	26	19	47	0.00	.....	0.00	0	0	20	3	7	.....	E. H. Seuechal.
Steele	Kidder	1,857	21	52.2	−5.2	81	12	22[a]	30	45[a]	0.28	−0.92	0.26	T.	3	19	9	2	w.	H. S. Wood.
Taylor	Stark	2,493	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Leutz.
Towner	McHenry	1,482	16	52.7	−3.0	89	7	22	20	49	0.31	−1.63	0.31	0	1	13	8	9	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bruns.
Wahpeton	Richland	962	24	53.2	−5.5	89	8	17	20	55	0.14	−1.94	0.05	0	4	24	2	4	nw.	F. E. Smith.
Walhalla	Pembina	966	11	50.6	−5.3	78	26†	25	20	45	1.13	−0.82	0.48	0	3	16	12	2	n.	Ivan Lee.
Washburn	McLean	1,734	19	55.2	−3.4	84	22†	26	19†	42	0.16	−1.11	0.15	0	2	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	52.2	−2.4	84	7	20	19†	46	0.33	−1.10	0.23	0	3	20	6	4	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	52.8	−6.7	84	7	22	19	41	0.30	−0.61	0.28	0	3	11	15	4	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	49.5	−4.9	80	7	20	20	42	0.35	−1.41	0.27	T.	2	12	14	4	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	52.2	.....	86	22	22	19	48	0.54	.....	0.28	0	4	17	8	5	se.	H. A. Crandall.
Moorhead, Minn	Clay	935	37	52.2	−4.4	80	8	22	20	43	0.29	−2.01	0.11	0	7	19	7	4	n.	U. S. Weather Bureau.
Averages		.....	.....	51.9	−4.5	93	22	11	19†	59	0.39	−1.25	0.81	T.	3	15	9	6	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for September, 1918.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖ ‖	Red	....	.05	....	....	....	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.15
Ashley	Missouri	.12	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.17
Beach	Lit. Missouri	.28	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.28
Berthold Agency	Missouri	.21	T.	T.	.03	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	T.	T.	T.	....	....	....	.14	....	....	0.38
Bierman	Lit. Missouri	.04	.03	....	.15	....	....	....	....	....	....	....	....	....	T.	....	....	.13	....	....	....	....	....	....	.15	....	....	....	....	....	....	....	0.50
Bismarck ***	Missouri	.26	.04	....	T.	....	....	....	....	....	.13	....	....	....	.03	....	....	T.	....	....	....	....	....	....	T.	T.	....	....	....	.01	....	....	0.47
Bottineau ‖ ‖	Mouse	.14	....	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	....	....	....	....	....	.16	.03	....	....	....	T.	....	....	0.35
Bowbells ‖ ‖	Mouse	....	....	....	....	....	....	....	....	....	....	....	....	....	.07	....	....	....	....	....	....	....	....	....	.21	....	....	....	....	....	....	....	0.28
Bowman	Grand	T.	....	....	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*	.26	....	....	....	....	....	....	0.30
Buford	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cando	Sheyenne	.11	....	....	....	....	....	....	....	....	....	....	....	....	.06	....	....	....	....	....	....	....	....	.10	....	....	....	....	....	.07	....	....	0.34
Carson	Heart	.20	.12	....	....	....	....	....	....	....	.13	....	....	....	....	....	....	.18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.63
Colgate	Sheyenne	....	....	....	....	....	....	....	....	....	....	....	....	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.04
Cooperstown	Sheyenne	.10	....	....	.30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.40
Crosby	Mouse	.12	....	....	....	....	....	....	....	....	....	....	....	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	0.15
Devils Lake ***	Sheyenne	.28	....	....	T.	....	....	.01	....	....	....	....	....	....	.01	....	....	....	.01	....	....	....	....	....	.16	....	....	....	....	.01	....	....	0.48
Dickinson ‖ ‖	Heart	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Donnybrook	Mouse	.17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.17
Dunn Center	Knife	.36	T.	....	....	....	....	....	....	T.	....	....	....	....	.02	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.39
Dunseith	Mouse	.28	....	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	....	T.	....	....	....	....	.05	.09	....	....	....	....	.06	T.	....	0.51
Eckman	Mouse	T.	....	....	T.	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	.45	....	....	....	....	....	....	....	0.45
Edgeley	James	T.	.07	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.07
Ellendale	James	.09	.05	....	T.	....	T.	....	....	....	....	....	....	....	T.	T.	T.	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	0.14
Energy	Missouri	.20	.06	....	.20	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	T.	....	....	0.46
Epping	Missouri	.17	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.13	....	....	0.40
Fessenden ‖ ‖	James	....	.10	....	T.	....	....	T.	....	....	....	.03	....	T.	T.	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	0.13
Forman	Sheyenne	.07	....	....	....	T.	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.07
Fryburg	Lit. Missouri	.35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.12	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.47
Fullerton	James	T.	.18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.18
Garrison	Missouri	.06	.28	....	.52	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	.03	....	....	....	....	.03	....	....	0.92
Grafton ‖ ‖	Red	.29	.08	....	....	.29	....	....	....	....	....	.07	....	....	....	....	....	....	.08	.05	....	....	....	.08	....	....	....	....	....	.31	....	....	1.25
Grand Forks	Red	.02	....	....	.08	....	....	....	....	....	....	.06	....	....	.04	....	....	.02	.11	....	....	....	....	....	.02	....	....	....	....	.11	....	....	0.46
Grand Rapids	James	.28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.28
Granville	Mouse	.11	....	....	....	....	....	....	....	....	T.	....	....	....	.04	....	....	....	....	....	....	....	....	T.	.08	....	....	....	....	....	....	....	0.23
Hannah	Pembina	....	....	....	....	....	....	....	....	....	T.	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	.81	....	....	....	0.81
Hansboro	Red	.05	.04	....	....	....	....	....	....	....	.10	....	....	....	....	....	....	....	.10	....	....	....	....	.20	....	....	....	....	....	....	....	....	....	0.49
Hettinger	Grand	....	.02	....	.20	.01	....	....	....	....	....	....	....	....	....	....	.02	.02	....	....	....	....	....	....	.01	.05	....	....	....	....	....	....	0.33
Hillsboro	Red	T.	....	....	.16	....	....	....	....	....	....	.11	....	....	.07	....	....	....	.04	....	....	....	....	....	.24	....	....	....	....	.04	....	....	0.66
Howard	Missouri	T.	T.	T.	.02	....	....	T.	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	T.	T.	....	....	....	....	....	....	....	0.02
Jamestown ‖ ‖	James	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.11
Lakota	Sheyenne	.34	....	....	....	....	.02	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.28	....	....	....	....	....	....	....	0.64
Lamoine	Missouri	.25	....	....	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.27
Langdon ‖	Pembina	.13	....	.07	....	....	....	....	....	T.	.11	....	....	....	.06	....	....	....	.15	....	....	....	....	....	.22	....	....	....	....	.28	....	....	1.02
Larimore ‖	Red	.01	.12	.10	....	.02	....	.04	....	....	....	.01	....	....	....	....	....	....	.20	.10	....	....	....	....	.70	....	....	....	....	.13	....	....	1.43
Linton	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.00
Lisbon ‖	Sheyenne	....	.20	....	....	....	....	....	....	....	....	....	....	....	....	.06	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.26
McClusky	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	.10	....	.05	....	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	0.18
McHenry	James	.10	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	0.12
McKinney	Mouse	.10	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.30	....	....	....	....	....	....	....	....	0.40
McLeod	Sheyenne	.07	.10	....	....	....	....	.05	....	....	....	....	....	....	.04	....	.04	....	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	0.32
Maddock	Sheyenne	.17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.17
Mandan ‖	Missouri	....	.30	....	....	....	....	....	....	....	.16	....	....	....	....	....	....	T.	.04	....	....	....	....	....	.03	T.	....	....	....	T.	....	....	0.63
Manfred	Sheyenne	.04	T.	....	....	....	....	....	....	....	.15	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	T.	....	....	....	....	....	....	0.19
Marmarth	Lit. Missouri	....	.04	....	T.	....	....	....	....	....	....	....	....	....	T.	....	....	.02	....	....	....	....	....	T	.32	.14	....	....	....	T.	....	....	0.52
Marstonmoor	James	.10	....	....	.02	....	....	....	....	....	....	....	....	....	.02	....	.06	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.20
Mayville	Red	....	....	....	....	.33	....	....	....	....	....	.11	....	....	....	....	....	....	....	....	....	....	....	....	.42	....	....	....	....	....	....	....	0.86
Melville	James	....	....	....	.43	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.43
Milnor	Red	T.	.14	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.14
Minot ‖	Mouse	.15	.05	....	....	....	....	....	....	....	.03	T.	....	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	....	....	....	0.25
Minto	Red	.36	....	....	.35	....	....	....	....	....	.03	....	....	....	.07	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	.27	....	....	1.08
Mott	Cannon Ball	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Napoleon ‖	Missouri	....	.15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	....	....	.04	....	....	....	....	.08	....	....	0.32
New England	Cannon Ball	....	.16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.29
New Salem	Heart	.28	.21	....	.04	....	....	....	....	....	....	....	....	....	.03	....	T.	.05	....	....	....	....	....	....	....	....	....	....	....	.01	....	....	0.62
Orange	Cannon Ball	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.16
Park River	Red	.50	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.13	....	....	....	....	.04	....	....	....	....	.04	....	....	....	0.71
Parshall	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Pembina ‖	Red	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Powers Lake	Missouri	.33	T.	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	T.	....	T.	....	....	....	T.	....	....	0.33
Sanish	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.00
Steele	Missouri	....	.26	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	.01	....	T.	....	....	....	....	T.	....	0.28
Taylor	Heart	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Towner	Mouse	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.31	....	....	....	....	....	....	....	0.31
Valley City	Sheyenne	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton ‖	Red	....	.05	....	....	....	....	.02	....	....	....	....	....	....	....	.02	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	0.14
Walhalla	Pembina	T.	T.	T.	T.	....	T.	....	....	....	....	....	....	....	....	T.	T.	.44	.21	....	....	....	....	.48	....	....	....	....	....	T.	....	....	1.13
Washburn	Missouri	.15	....	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.16
Westhope	Mouse	.23	....	....	....	....	....	....	....	....	T.	....	....	....	.03	....	....	....	....	....	....	....	....	....	.07	....	....	....	....	....	....	....	0.33
Williston ***	Missouri	.28	....	....	.01	....	....	....	T.	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	T.	....	....	....	....	.01	....	....	0.30
Willow City	Mouse	.08	....	....	T.	....	....	....	....	....	T.	....	....	....	....	....	....	....	T.	....	....	....	....	....	.27	....	....	....	....	....	....	....	0.35
Zap	Knife	.28	.04	....	.19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	0.54
Moorhead, Minn ***	Red	.11	.01	....	....	....	.05	....	....	....	.02	.02	....	....	.06	....	....	....	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	0.29

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	82	68	65	69	74	80	82	81	59	62	69	81	79	73	64	59	54	54	53	62	76	80	77	64	77	81	81	72	60	66	....	70.1
	Minimum...	47	44	34	31	37	42	42	41	35	30	39	31	42	46	32	34	24	27	30	19	34	36	43	49	38	34	35	40	41	27	....	36.1
Ashley	Maximum...	70	61	64	59	72	78	88	78	57	64	72	85	81	72	60	56	50	53	50	60	75	83	79	71	72	76	78	69	65	58	....	68.4
	Minimum...	48	45	31	40	36	40	38	46	32	31	44	36	46	49	28	30	26	26	26	17	32	37	46	48	44	28	43	38	40	25	....	36.5
Beach	Maximum...	70	68	63	64	72	79	89	70	55	70	88	80	77	61	62	58	57	53	55	73	75	93	83	77	70	71	74	74	65	68	....	70.5
	Minimum...	43	40	29	42	34	39	43	47	27	42	36	40	45	42	24	30	35	29	16	28	30	38	51	46	45	35	35	37	35	40	....	36.8
Berthold Agency	Maximum...	69	65	70	69	75	82	89	70	61	74	80	92	86	71	64	60	59	56	57	70	87	87	78	68	77	73	75	73	56	61	....	71.8
	Minimum...	49	46	29	44	28	35	38	47	23	38	35	36	38	47	25	32	23	22	24	28	36	35	49	48	45	34	39	37	42	27	....	36.3
Bismarck	Maximum...	61	64	64	60	72	79	83	71	57	66	75	86	79	64	61	55	52	53	50	65	79	87	72	69	72	77	76	71	57	59	....	67.9
	Minimum...	50	45	35	46	38	45	42	46	31	42	45	43	49	40	33	35	34	30	28	26	39	41	50	49	44	34	44	42	41	30	....	39.9
Bottineau §§	Maximum...	63	62	60	62	74	80	82	76	57	66	72	77	77	63	62	50	56	52	54	63	78	71	61	64	72	74	88	76	66	62	....	67.0
	Minimum...	47	32	28	41	39	43	48	50	30	30	38	37	52	49	28	29	35	32	31	25	38	48	47	45	41	35	42	37	33	24	....	37.8
Bowbells §§	Maximum...	58	59	61	66	72	78	81	56	57	70	75	73	78	60	56	51	57	56	54	69	83	72	61	55	70	73	76	63	49	57	....	64.9
	Minimum...	42	33	24	42	40	41	43	47	21	41	33	33	40	41	21	24	26	25	20	26	30	38	36	42	38	36	42	35	37	19	....	33.9
Carson	Maximum...	70	60	65	55	75	75	80	70	60	66	68	88	80	70	66	60	50	50	50	65	82	75	70	72	77	80	74	70	60	..	....	[a]68.4
	Minimum...	40	40	30	40	35	40	50	45	26	36	40	40	42	40	25	35	32	32	20	25	36	50	48	40	40	40	36	33	33	..	....	[a]36.9
Crosby	Maximum...	54	57	61	63	69	75	81	58	56	68	70	76	74	63	58	51	54	47	53	70	79	68	61	52	70	60	75	71	67	52	....	63.3
	Minimum...	45	37	32	45	40	42	54	48	24	37	38	37	44	42	27	29	29	29	23	30	41	42	46	44	46	42	47	40	25	37	....	38.1
Devils Lake	Maximum...	60	62	58	64	72	75	79	64	55	62	65	75	74	64	58	50	52	48	49	61	72	76	63	58	68	74	76	65	51	55	....	63.5
	Minimum...	48	38	32	43	42	44	46	38	27	31	38	43	43	40	32	29	36	32	29	30	40	37	45	44	35	34	49	36	34	27	....	37.4
Dickinson	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Donnybrook	Maximum...	64	60	61	66	76	78	84	65	55	69	75	78	79	69	60	56	56	59	53	66	84	76	60	57	68	74	76	71	..	56	....	[a]67.3
	Minimum...	48	36	28	46	48	45	42	49	22	38	49	45	41	47	28	31	30	30	26	26	42	51	40	41	35	39	49	44	..	22	....	[a]38.6
Dunseith	Maximum...	62	59	56	62	69	75	78	74	54	63	66	75	75	70	58	50	55	48	50	60	74	71	56	62	70	73	76	72	57	54	....	64.1
	Minimum...	46	31	27	40	38	43	49	46	24	29	36	34	48	47	32	27	31	30	32	28	36	44	43	42	34	30	47	35	35	25	....	36.3
Edgeley	Maximum...	79	63	61	66	74	78	84	79	59	64	71	83	77	68	61	59	57	54	52	59	72	82	79	70	71	70	77	80	70	65	....	69.5
	Minimum...	44	44	30	36	37	42	39	46	30	29	40	34	42	48	30	29	31	28	29	19	27	37	39	47	43	44	33	41	36	28	....	36.1
Ellendale	Maximum...	72	62	60	64	72	76	81	80	55	58	70	83	76	68	59	55	47	54	50	57	73	80	80	71	70	75	80	68	57	58	....	67.0
	Minimum...	46	43	33	37	41	48	42	46	34	35	42	36	49	44	32	33	29	29	27	21	30	43	43	50	36	32	48	39	42	29	....	38.0
Fessenden §§	Maximum...	66	65	63	70	74	80	80	67	57	65	71	80	77	67	62	52	55	52	54	63	77	80	67	62	72	78	77	69	58	62	....	67.4
	Minimum...	48	40	27	35	34	40	39	44	25	24	38	38	41	47	27	32	32	25	26	19	29	37	44	45	35	28	41	34	40	23	....	34.6
Forman	Maximum...	75	64	61	68	74	77	84	82	61	59	70	81	75	75	61	59	52	53	52	60	77	81	80	74	71	75	82	68	63	59	....	69.1
	Minimum...	51	46	37	36	40	40	48	56	35	34	44	33	53	49	33	32	34	25	29	20	34	43	43	49	43	30	41	42	42	29	....	39.2
Fullerton	Maximum...	72	60	71	67	72	70	81	79	55	62	76	82	76	69	60	55	51	51	50	57	71	80	79	72	73	78	80	68	59	58	....	67.8
	Minimum...	56	45	46	36	50	45	45	47	41	33	36	48	60	48	38	31	32	28	29	20	30	53	50	44	48	57	57	38	40	40	....	42.4
Garrison	Maximum...	66	61	62	65	70	76	80	71	67	67	67	81	79	78	58	57	56	48	51	65	81	83	70	58	71	73	74	70	64	56	....	67.5
	Minimum...	50	43	30	46	41	42	42	43	23	36	38	38	36	44	26	36	30	25	24	25	35	40	43	46	43	36	44	36	40	23	....	36.8
Grafton §§	Maximum...	68	65	58	60	72	76	78	73	56	60	60	76	72	68	60	55	54	54	53	61	71	75	65	67	70	78	79	75	54	..	....	[a]66.0
	Minimum...	49	35	33	36	35	40	36	48	28	25	37	33	37	47	37	33	34	33	30	20	40	34	46	44	30	29	49	32	34	..	....	[a]35.8
Grand Forks	Maximum...	64	64	58	58	70	76	78	79	54	58	60	75	70	64	58	51	55	51	51	59	71	74	65	67	68	77	79	63	52	52	....	64.0
	Minimum...	52	40	33	35	39	43	42	46	32	31	41	34	39	42	37	34	35	33	30	23	42	39	36	48	32	31	52	40	34	28	....	37.4
Granville	Maximum...	60	62	63	68	70	80	75	68	58	67	74	76	88	64	62	52	52	50	54	65	81	80	68	54	65	75	72	70	50	60	....	68.1
	Minimum...	50	38	30	45	50	40	45	40	25	27	30	42	42	45	28	28	30	32	23	20	32	35	47	47	38	35	38	35	35	25	....	35.9
Hannah	Maximum...	60	59	57	58	74	76	79	64	60	61	71	72	69	70	67	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	[n]66.1
	Minimum...	40	31	26	36	38	40	38	37	26	30	32	35	34	33	28	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	[n]33.4
Hansboro	Maximum...	63	62	65	61	72	75	83	65	55	64	64	74	72	64	59	52	55	50	48	60	74	68	58	64	68	77	77	68	55	55	....	64.2
	Minimum...	46	33	27	37	35	40	40	40	24	20	..	39	36	44	36	30	31	31	31	16	30	34	42	38	25	30	50	30	34	26	....	[a]33.5
Hettinger	Maximum...	71	83	62	60	79	62	71	78	57	72	72	85	76	83	78	57	52	53	50	66	85	84	78	77	67	71	72	77	72	53	....	70.0
	Minimum...	48	46	28	47	32	39	39	47	36	43	46	37	47	53	23	30	35	32	24	28	34	39	48	48	28	33	42	38	38	31	....	38.7
Howard	Maximum...	71	58	64	64	71	79	82	66	57	75	78	81	79	66	61	52	56	51	52	70	82	72	70	68	72	69	76	69	45	55	....	67.0
	Minimum...	46	33	29	45	40	40	45	36	36	45	35	45	42	33	22	30	20	28	20	24	37	40	30	40	46	38	42	38	33	20	....	35.3
Jamestown §§	Maximum...	75	63	60	60	72	75	73	73	54	65	68	78	74	62	49	59	50	54	51	62	73	80	77	74	73	77	75	73	68	66	....	66.9
	Minimum...	40	45	35	36	40	46	44	47	31	35	44	35	47	46	33	36	32	32	34	19	35	38	47	48	41	30	49	40	41	30	....	38.7
Lakota	Maximum...	63	62	58	63	71	74	78	65	53	57	..	..	..	..	59	53	54	55	51	54	71	74	62	60	69	75	76	74	76	56	....	[d]64.0
	Minimum...	39	37	29	35	35	38	40	47	26	25	..	..	..	..	30	29	27	27	27	18	21	33	44	43	35	38	46	31	32	25	....	[d]33.0
Lamoine	Maximum...	68	63	65	65	71	76	78	76	70	45	65	70	78	64	59	57	53	49	48	63	76	80	76	68	68	75	73	70	63	63	....	66.5
	Minimum...	36	40	28	36	36	36	40	43	38	24	30	38	37	46	25	33	27	23	24	19	32	41	40	43	40	32	44	40	33	21	....	34.2
Langdon	Maximum...	62	63	54	64	69	74	80	60	53	64	58	74	72	63	57	48	52	48	48	62	75	71	57	63	64	87	76	62	51	57	....	62.9
	Minimum...	40	34	28	39	39	41	45	42	24	22	34	36	41	48	30	30	35	32	30	24	40	41	44	40	33	32	47	29	30	28	....	35.3
Larimore §§	Maximum...	63	63	56	61	71	76	75	66	52	50	60	74	68	57	58	50	50	49	47	58	71	70	71	63	67	73	74	62	50	69	....	62.5
	Minimum...	50	40	35	36	40	46	42	45	30	26	40	36	44	50	34	35	31	31	30	22	28	31	39	42	34	34	35	40	39	29	....	36.5
Lisbon §§	Maximum...	74	62	62	68	72	77	75	82	55	62	70	78	75	70	74	67	55	54	50	60	76	82	76	78	71	71	80	66	57	66	....	68.8
	Minimum...	52	45	36	30	37	44	42	43	32	29	38	29	38	45	29	30	28	24	23	15	31	31	38	45	44	27	30	34	41	24	....	34.5
McHenry	Maximum...	75	76	58	65	76	78	65	64	60	55	60	63	59	57	58	55	54	50	52	51	53	60	64	60	57	55	60	57	55	60	....	60.4
	Minimum...	40	51	30	45	36	41	43	47	27	30	31	29	40	30	33	30	31	27	30	22	26	33	32	29	24	28	41	32	22	24	....	32.8
McKinney	Maximum...	74	64	62	66	75	80	81	68	58	75	75	79	78	62	60	56	58	50	53	67	80	73	64	69	68	74	80	75	70	..	....	[a]68.8
	Minimum...	38	34	25	45	45	40	35	36	20	37	32	32	44	37	25	28	36	35	24	21	31	37	45	45	35	35	45	37	28	20	....	34.6
Maddock	Maximum...	74	62	61	64	73	76	80	78	55	64	66	76	75	74	64	56	53	54	52	59	75	78	78	66	69	75	76	76	66	56	....	67.7
	Minimum...	48	40	28	39	37	40	41	48	23	24	32	39	44	45	27	26	35	30	26	16	32	38	44	46	35	28	48	33	39	21	....	35.1
Marmarth	Maximum...	67	60	57	63	70	77	85	68	54	70	76	86	81	62	60	60	55	56	54	71	81	90	83	63	60	70	70	72	58	53	....	67.7
	Minimum...	45	42	30	43	31	36	40	48	38	37	37	37	53	48	25	34	35	29	19	26	42	42	53	39	47	40	47	44	40	32	....	38.5
Minot §§	Maximum...	69	63	63	64	74	80	85	76	59	70	75	75	79	78	62	68	63	51	55	62	85	80	67	61	72	75	77	70	69	59	....	69.5
	Minimum...	46	34	24	41	36	38	37	48	20	32	35	37	35	40	26	26	25	25	21	24	32	34	40	43	30	33	44	33	37	17	....	33.1
Mott	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Napoleon §§	Maximum...	65	63	64	65	73	78	85	72	58	68	72	83	82	65	61	56	53	53	50	64	74	88	78	71	72	79	78	70	57	60	....	68.6
	Minimum...	48	45	32	36	36	38	38	45	28	32	41	47	45	50	26	25	33	24	25	18	34	41	44	46	46	28	43	35	38	21	....	36.3
New England	Maximum...	71	58	59	60	71	71	81	70	55	68	75	81	78	75	58	55	50	52	66	83	85	75	70	78	70	73	70	63	53	..	....	[a]68.1
	Minimum...	43	47	34	47	35	41	43	52	42	32	41	31	42	43	26	36	38	35	18	36	42	41	52	49	48	41	40	43	40	32	....	39.3
New Salem	Maximum...	73	63	65	60	71	79	84	70	65	67	77	89	79	72	60	57	54	51	55	61	82	87	70	66	75	76	71	69	60	59	....	68.9
	Minimum...	43	45	31	45	37	48	47	50	23	47	42	47	46	42	27	35	32	27	21	22	23	47	45	48	42	39	47	40	35	24	....	38.2
Orange	Maximum...	62	60	64	57	74	79	84	72	60	71	77	88	81	66	62	61	67	56	51	68	86	90	80	74	71	75	79	74	56	57	....	69.9
	Minimum...	41	42	26	35	28	37	38	45	32	43	42	37	48	50	23	27	33	30	14	27	37	38	50	43	46	30	35	41	38	31	....	36.4
Park River	Maximum...	69	65	60	66	73	76	78	75	55	60	..	..	..	..	76	54	54	54	54	60	71	73	67	65	67	77	79	77	58	54	....	[d]66.0
	Minimum...	50	37	33	36	39	43	39	44	30	27	..	..	..	..	32	45	36	32	33	26	37	37	44	44	37	35	52	36	36	31	....	[d]37.3
Pembina §§	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Steele	Maximum...	66	61	62	64	70	69	80	79	65	73	76	81	73	70	60	55	54	57	60	61	73	70	68	70	70	69	73	70	67	59	....	67.5
	Minimum...	46	44	28	38	40	42	44	..	40	28	32	48	48	45	44	40	30	28	28	26	34	36	40	40	38	34	36	38	30	22	....	[a]36.8
Towner	Maximum...	71	63	62	67	75	79	89	82	60	69	73	77	78	75	60	58	58	59	55	65	79	80	75	65	68	76	76	77	68	65	....	70.1
	Minimum...	49	37	25	41	38	40	40	51	25	29	38	37	43	44	29	24	32	24	23	22	35	39	45	43	34	33	40	36	39	23	....	35.3
Valley City	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton §§	Maximum...	79	66	61	69	73	77	82	89	58	67	65	78	76	62	63	56	55	56	60	72	82	74	72	76	76	81	77	61	60	72	....	69.8
	Minimum...	44	47	34	34	34	39	41	45	38	34	35	39	45	46	32	33	23	26	26	17	35	42	42	46	44	27	43	42	40	32	....	36.5
Washburn	Maximum...	80	65	62	59	72	80	81	80	56	62	77	82	80	76	64	59	54	56	52	78	75	84	84	70	70	72	73	75	74	63	....	70.5
	Minimum...	45	44	32	45	39	45	44	50	27	39	40	45	46	60	28	36	28	32	26	38	40	42	46	41	40	42	38	44	44	26	....	39.8
Westhope	Maximum...	62	61	64	67	75	82	86	74	64	67	75	78	79	63	63	54	58	57	66	81	72	61	58	60	74	75	80	71	63	58	....	68.2
	Minimum...	46	34	26	42	39	44	47	46	21	29	35	39	44	45	26	27	33	26	20	37	42	45	46	45	30	36	48	33	35	20	....	36.2
Williston	Maximum...	56	59	62	64	72	70	84	57	54	68	79	83	76	59	60	52	55	50	52	71	83	78	68	58	72	68	74	72	54	59	....	65.9
	Minimum...	48	41	39	45	44	45	49	33	29	46	40	46	44	37	30	36	24	31	22	36	42	44	52	50	50	44	45	38	37	24	....	39.7
Willow City	Maximum...	61	60	58	62	69	71	80	60	56	66	76	74	75	61	60	52	56	46	51	61	71	71	57	56	67	72	75	66	62	55	....	63.6
	Minimum...	47	33	26	41	34	38	41	41	46	28	34	32	43	46	27	25	33	27	27	20	33	40	53	43	33	31	41	42	36	22	....	35.4
Zap	Maximum...	69	63	65	66	70	78	83	68	55	71	75	80	78	65	61	57	55	47	50	67	83	86	72	68	70	74	74	71	57	59	....	67.8
	Minimum...	49	45	31	40	38	38	41	48	27	39	35	59	40	49	25	32	26	27	22	28	35	40	40	47	45	35	39	36	41	24	....	36.7

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers
A T

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

OCTOBER, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 30, 1918.

Departure of the Mean Temperature from the Normal, October, 1918.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., OCTOBER, 1918. No. 10.

GENERAL SUMMARY.

The weather during October was one of the driest as well as the warmest of record for that month in the climatological history of the State, covering a period of twenty-seven years. There were but eight Octobers with higher monthly mean temperatures, the highest being 50° in 1914. There were but two Octobers with as low a total monthly precipitation, 1910 with the same average (0.54 inch) and 1895 with 0.25 inch. Owing to the mild, dry weather excellent progress was made with harvesting of late flax, and with threshing, the greater portion of which was completed. In many parts of the State, however, the ground was mostly too dry for fall plowing, and this work was abandoned. Threshing was somewhat delayed on account of sickness (Spanish influenza), otherwise practically all threshing would have been completed by the end of the month. There was nearly the normal sunshine, and the wind movement was also about the average. By and large, the weather for the month was the most delightful of record.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.02 inches. The highest was 30.41 inches at Bismarck on the 2d; the lowest was 29.31 inches at Moorhead, Minn., on the 28th.

TEMPERATURE.

The mean temperature for the State was 46.2°, or 2.4° above the normal, and 11.5° higher than the mean for October, 1917. The highest mean reported was 51.2° at Jamestown, Stutsman County; the lowest was 42.2° at Lakota, Nelson County. The highest temperature reported was 90° at Hettinger, Adams County, on the 14th; the lowest was 4° at Lamoine, Kidder County, on the 28th. The greatest monthly range of temperature was 82° at Hettinger, Adams County; the least was 48° at Crosby, Divide County. The greatest daily range was 60° at Hettinger, Adams County, on the 14th. The distribution of the temperature was fairly uniform, both geographically and throughout the month. Usually the highest temperature occurred on the 11th or 14th, and the lowest on the 27th, 28th or 31st.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 70 per cent, the average at 7 a. m. being 80 per cent, and at 7 p. m. 60 per cent.

PRECIPITATION.

The average precipitation for the State was 0.54 inch, or 0.46 inch below the normal, and 0.23 inch less than the average for October, 1917. The greatest monthly amount reported was 1.91 inches at Larimore, Grand Forks County; there was none at Maddock, Benson County, and Sanish, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 1.30 inches at Ashley, McIntosh County, on the 23d. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall for the State was 0.8 inch; the greatest fall reported was 4.6 inches at Dickinson, Stark County. There were scattered showers from the 4th to the 7th, inclusive, and scattered precipitation during the latter half of the month, most of the heavier amounts falling from the 22d to the 24th, inclusive.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 10.0 miles. The greatest wind movement was 9,985 miles at Ellendale, an average of 13.4 miles per hour; the least was 6,008 miles at Williston, an average of 8.2 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 50 miles per hour from the west at Grand Forks on the 12th.

SUNSHINE AND CLOUDINESS.

There amount of sunshine was about normal; the average number of clear days was 14, partly cloudy days 8, and cloudy days 9.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40 2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.57	−0.43	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918...	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.

Climatological Data for October, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	48.8	+3.8	82	11	21	3	48	1.50	+0.10	0.63	0	5	11	6	14	nw.	E. R. Carley.
Ashley	McIntosh	2,001	21	47.2	+3.2	78	15	14	27	51	1.30	+0.23	1.30	0	1	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	24	46.6[a]	+1.0	78[a]	11†	7[a]	31	54[b]	0.35	−0.57	0.31	T.	2	17	6	8	se.	C. L. Hall.
Bierman	Slope	.....	2	49.5	.....	83	14	14	31	40	0.46	.....	0.23	4.2	3	17	4	10	sw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	47.5	+3.4	80	14	13	28	48	0.28	−0.75	0.25	T.	3	13	8	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	43.8	+1.3	75	11	5	28	49	0.55	−0.53	0.25	0	8	10	8	13	sc.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	42.6	.....	75	3	15	31	43	0.53	.....	0.24	.....	3	19	1	11	.....	G. H. Phelps.
Bowman	Bowman	.....	4	47.2	.....	87	14	8	31	57	0.32	.....	0.12	0.1	5	15	9	7	nw.	M. W. Madsen.
Buford	Williams	1,944	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	0.42	−0.38	0.16	.....	4	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	6	46.8	.....	84	14	10	31	47	0.17	.....	0.12	0.2	3	17	7	7	nw.	J. W. Evens.
Colgate	Steele	1,177	4	45.3	.....	80	13	21	3	56	0.75	.....	0.40	0	2	15	6	10	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	0.55	−0.48	0.30	0	2	16	14	1	nw.	S. Friswold.
Crosby	Divide	1,954	11	45.0	+2.8	72	3†	24	22†	34	0.55	−0.14	0.22	0	5	6	16	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	14	44.4	+3.9	74	11	20	27	37	0.55	−0.68	0.24	2.0	7	12	8	11	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	47.2	+3.0	87	14	13	31	53	0.42	−0.34	0.36	4.6	2	19	1	11	se.	J. C. Thysell.
Donnybrook	Ward	1,760	19	45.7	+2.4	75	11	15	31	43	0.20	−0.70	0.20	0	1	.....	.....	.....	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.28	.....	0.23	.....	2	16	6	9	se.	W. H. Mellow.
Dunseith	Rolette	1,682	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Lamont.
Eckman	Bottineau	.....	13	43.3	+0.6	78	14	15	28	45	0.49	−0.34	0.23	T.	5	16	6	9	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	48.3	+2.4	80	11	14	27	46	0.32	−0.72	0.23	0	2	7	15	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	47.6	.....	80	4	17	27	43	0.23	.....	0.11	T.	4	11	11	9	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.25	.....	2	.....	.....	.....	.....	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.29	.....	0.15	0	4	17	9	5	se.	M. E. Uggen.
Fessenden	Wells	1,610	6	45.0	.....	78	11†	15	27	46	0.57	.....	0.21	1.0	4	20	2	9	se.	G. T. Seymour.
Forman	Sargent	1,249	26	50.3[a]	+4.4	84[a]	16	23[a]	29	48	0.48	−0.88	0.15	0	4	10	15	6	ne.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.32	3.5	2	16	9	6	w.	Verne King.
Fullerton	Dickey	1,439	20	48.4	+3.8	79	11	19	27	45	0.24	−0.99	0.12	0	2	16	7	8	nw.	F. O. Alin.
Garrison	McLean	1,901	23	46.2	+2.0	77	14	12	31	44	0.06	−0.76	0.04	T.	2	14	10	7	nw.	G. L. Robinson.
Grafton	Walsh	827	26	45.2[a]	+2.0	78[a]	11	22[a]	26†	46	0.89	0.00	0.60	1.0	4	.....	.....	.....	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	26	45.6	+1.6	73	4	24	25	44	1.20	−0.08	0.50	1.0	10	11	8	12	w.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	50.4	.....	79	11	22	24	46	0.32	.....	0.32	0	1	13	4	14	nw.	G. H. Leick.
Granville	McHenry	1,504	11	45.4	+1.3	76	11†	15	28	47	0.26	−0.64	0.20	T.	3	12	8	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	44.8	+4.6	80	4	12	27	46	0.75	−0.17	0.36	3.0	4	16	7	8	s.	J. Moffatt.
Hansboro	Towner	1,597	10	42.6[a]	.....	75[a]	11	13[a]	28	43[a]	0.57	.....	0.20	2.0	4	.....	.....	.....	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	47.7	+0.4	90	14	8	31	60	0.19	−0.57	0.09	T.	3	19	6	6	nw.	U. J. Downey.
Hillsboro	Traill	901	12	47.8	+1.8	77	11	25	3†	43	1.55	+0.55	0.68	0	7	9	12	10	n.	F. E. Mayall.
Howard	Williams	2,275	11	44.6	+2.4	76	3†	8	30	46	0.03	−0.70	0.02	T.	2	16	7	8	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	51.2[b]	+5.7	88[c]	20	17	26	46[c]	0.65	−0.27	0.65	0	2	16	1	14	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	42.2[f]	0.0	70[f]	4†	15[f]	27	34[b]	0.62	−0.29	0.24	1.0	5	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	10	44.2	+1.1	78	14	4	28	42	0.05	−0.66	0.05	0.5	1	21	5	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	43.3	+2.0	76	11	15	25†	44	0.54	−0.45	0.15	T.	5	13	10	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	47.4	+3.0	76	11	24	25	35	1.91	+0.60	0.75	2.0	7	13	6	12	se.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	43.8	−1.5	74	11	19	28	33	T.	−1.18	T.	0	0	20	6	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.14	1.5	2	.....	.....	.....	.....	Edw. Tapley.
McHenry	Foster	1,509	8	45.4	.....	26	21	14	27	43	0.90	.....	0.50	3.0	4	16	5	10	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	43.8	+2.0	75	11†	10	28	46	0.43	−0.35	0.12	1.0	4	6	16	9	sc.	N. P. Swenson.
McLeod	Ransom	1,075	6	49.6	.....	80	11†	26	3†	46	0.33	.....	0.22	0	5	10	11	10	nw.	R. D. Markland.
Maddock	Benson	1,604	3	45.7	.....	75	11†	17	27	45	0.00	.....	0.00	0	0	13	5	13	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	46.2	.....	80	14	14	28	46	0.27	.....	0.26	.....	2	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	45.9	+2.0	75	14	18	26	41	0.48	−0.43	0.22	1.5	4	16	7	8	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	47.2	.....	82	14	14	31	44	0.35	.....	0.15	1.7	5	19	4	8	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	44.0[a]	.....	78[a]	11†	10[a]	27	57[a]	0.23	.....	0.15	1.5	2	.....	.....	.....	nw.	Grace Williamson.
Mayville	Traill	975	22	47.8	+2.6	78	11	24	25	45	1.15	−0.09	0.50	.....	5	13	7	11	nw.	W. C. Gould.
Melville	Foster	1,590	20	47.9[g]	+4.2	83[g]	12	20[g]	28	40[g]	0.85	−0.05	0.45	4.0	2	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.33	0	4	13	6	12	nw.	Hj. Edman.
Minot	Ward	1,557	22	42.4	−2.0	77	20	6	28	53	0.44	−0.53	0.24	0.2	2	16	7	8	nw	W. I. Faris.
Minto	Walsh	820	25	46.6	+3.4	77	11	24	25†	43	1.31	+0.12	0.60	.....	8	14	5	12	nw.	C. M. Evans.
Mott	Hettinger	2,424	11	47.8	+3.8	82	14	16	27	56	0.36	−0.93	0.27	1.0	3	15	6	10	se.	O. H. Opland.
Napoleon	Logan	1,955	26	46.6	+4.7	84	14	8	28	51	0.89	+0.01	0.67	1.0	3	16	6	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. S. Lowis.
New Salem	Morton	2,163	13	46.5	+1.6	84	14	11	31	50	0.14	−0.96	0.08	0.8	2	21	0	10	sw.	J. Christiansen.
Orange ‡‡	Adams	2,586	9	47.6	.....	85	15	17	31	56	0.08	.....	0.08	0	1	8	11	12	nw.	T. F. Young.
Park River	Walsh	998	14	44.6[b]	+0.3	76[b]	11	18[a]	27	41[b]	1.09	+0.09	0.44	2.0	8	.....	.....	.....	nw.	J. P. George.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.36	.....	0.22	0	2	5	15	11	ne.	C. Frank.
Sanish	Mountrail	2,260	4	47.4	.....	74	9†	11	31	49	0.00	.....	0.00	0	0	16	0	15	se.	E. H. Senechal.
Steele	Kidder	1,857	21	47.8	+4.3	81	11	10	27	45	0.64	−0.08	0.38	1.5	5	17	9	5	nw.	H. S. Wood.
Taylor	Stark	2,493	2	44.0[a]	.....	66[b]	10†	14[a]	31	36[a]	0.47	.....	0.41	.....	2	.....	.....	.....	se.	H. Leutz.
Towner	McHenry	1,482	16	45.2	+2.3	77	11	17	28	44	0.49	−0.59	0.31	T.	2	10	10	11	w.	B. Bagley.
Valley City	Barnes	1,245	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bruns.
Wahpeton	Richland	962	24	49.8	+3.0	82	12†	22	31	43	0.90	−0.74	0.32	0	6	20	0	11	nw.	F. E. Smith.
Walhalla	Pembina	966	11	45.8	+2.8	75	11	19	25†	46	1.14	+0.13	0.50	2.0	6	18	7	6	n.	Ivan Lee.
Washburn	McLean	1,734	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	44.6	+2.4	76	11	10	28	45	0.29	−0.38	0.12	T.	4	13	9	9	se.	W. A. Meddaugh.
Williston	Williams	1,875	39	46.7	+3.8	76	11	13	31	42	0.38	−0.39	0.15	0.2	6	11	10	10	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	42.8	+0.6	73	11†	15	28	41	0.52	−0.15	0.31	T.	3	11	12	8	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	45.7	.....	83	14	8	31	52	0.31	.....	0.31	0.8	1	16	4	11	se.	H. A. Crandall.
Moorhead, Minn	Clay	935	37	47.6	+4.8	80	11	24	31	43	1.51	−0.56	0.39	0	10	14	7	10	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	46.2	+2.4	90	14	4	28	60	0.54	−0.46	1.30	0.8	4	14	8	9	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for October, 1918.

Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia	Red																				.25		.63	T.	.35				.20		.07		1.50
Ashley	Missouri																						1.30	T.	T.								1.30
Beach	Lit. Missouri																																
Berthold Agency	Missouri				.04														T.					.31					T.				0.35
Bierman	Lit. Missouri							T.																.23		.03				T.	.20		0.46
Bismarck ***	Missouri				T.		T.												.01					.25							.02		0.28
Bottineau	Mouse				.03			.25	.14						T.				.01	.04				.03	.01					.04	T.		0.55
Bowbells ‖ ‖	Mouse					.09			.24																.20								0.53
Bowman	Grand	T.	.08					T.									T.		T.				.02	.12		.03				T.	.07		0.32
Buford	Missouri																																
Cando	Sheyenne			.05				.15												.06					.16								0.42
Carson	Heart																							.12		T.			.03		.02		0.17
Colgate	Sheyenne																						.40		.35								0.75
Cooperstown	Sheyenne																						.25		.30								0.55
Crosby	Mouse							.15	.22										.08					.05		.05							0.55
Devils Lake ***	Sheyenne			.01		.10	.05										T.		.13			T.		.18	.06				.02	T.		0.55
Dickinson	Heart		T.															T.						.36		.06			T.		T.		0.42
Donnybrook	Mouse																								.20								0.20
Dunn Center	Knife																							.23		.05							0.28
Dunseith	Mouse																																
Eckman	Mouse				.07		.04	.10																.23	.05						T.		0.49
Edgeley	James																							.23	.09								0.32
Ellendale	James		T.		T.														.06			.02	.09	.06							T.	T.	0.23
Energy	Missouri			T.			T.									T.			.13					.25		T.					T.		0.38
Epping	Missouri				.15														.06					.05		.03							0.29
Fessenden	James					T.											T.			.15		.08	.13	.21						T.			0.57
Forman	Sheyenne																			.08		.10		.15				.15					0.48
Fryburg	Lit. Missouri				T.																			.32		T.					.03		0.35
Fullerton	James																						.12	T.	.12								0.24
Garrison	Missouri				T.														T.					.02	.04						T.		0.06
Grafton ‖ ‖	Red																		.10						.60				.15		.04		0.89
Grand Forks ***	Red				.17		T.	.06										.10		.09		.04		.48	.02			.18	.01		.05		1.20
Grand Rapids	James																						.32		T.								0.32
Granville	Mouse				T.		T.	.20											.02						.04						T.		0.26
Hannah	Pembina						.36													.09					.20						.10		0.75
Hansboro	Red				.10			.13											.14					.20						T.		0.57
Hettinger	Grand																							.05		.09					.05		0.19
Hillsboro	Red					.04		.05				T.								.16			.68		.28				.27		.07		1.55
Howard	Missouri	T.			.01			T.							T.	T.	T.									.02							0.03
Jamestown	James																							*	.65								0.65
Lakota	Sheyenne				T.												.24	T.	.05			.05	T.	.24						.04		T.	0.62
Lamoine	Missouri																		T.					.05									0.05
Langdon	Pembina					.15		.09										T.		.10					.15						.05		0.54
Larimore	Red				.02		.02	.05							.03								.39		.65			T.	.75				1.91
Linton	Missouri																																
Lisbon	Sheyenne																								T.		T.						T.
McClusky	Missouri							.11																.14									0.25
McHenry	James						T.										.10					.50		.15						.15			0.90
McKinney	Mouse				.10		T.	.12											T.					.11							.10		0.43
McLeod	Sheyenne				.22															.04			T.	.01				.01	.05		T.		0.33
Maddock	Sheyenne																																0.00
Mandan ‖ ‖	Missouri							T.											T.	T.					.26					T.	.01		0.27
Manfred	Sheyenne				T.			.10									T.		T.	.07				.09	.22					T.			0.48
Marmarth	Lit. Missouri	T.	.05					T.									T.						.09	.15		.02			T.	T.	.04		0.35
Marstonmoor	James							T.															.08	.15									0.23
Mayville	Red					.11																.25			.50				.24			.05	1.15
Melville	James				T.														T.	T.			.45		.40								0.85
Milnor	Red				.30		T.													.10			T.		.33			T.	.14		T.		0.87
Minot	Mouse																							T.	.24						.20		0.44
Minto	Red					.03		.05									.03			.05			.40		.60				.10		.05		1.31
Mott	Cannon Ball						.06												.03					.27									0.36
Napoleon	Missouri																						.67	.17							.05		0.89
New England	Cannon Ball																																
New Salem	Heart						.06																	.08							T.		0.14
Orange	Cannon Ball																								.08								0.08
Park River	Red				.44	.03	.08										.03	.01		.05			.43								.02		1.09
Parshall	Missouri																																
Pembina	Red																																
Powers Lake	Missouri				.22		T.												T.					.14									0.36
Sanish	Missouri																																0.00
Steele	Missouri					T.	T.	T.											T.			.14	.02	.02	.38						.08		0.64
Taylor	Heart																							.41		.06			T.				0.47
Towner	Mouse																			.31					.18								0.49
Valley City	Sheyenne																																
Wahpeton	Red			.03				.02												.22			.32						.25		.06		0.90
Walhalla	Pembina					.50		.10										.07	.07						.20	.20					T.		1.14
Washburn	Missouri																																
Westhope	Mouse				.07			.12	.06																.04					T.	T.		0.29
Williston ***	Missouri				.15		.09	T.											.03					T.		.05			T.	.05	.01		0.38
Willow City	Mouse				T.		T.	.31											T.	.11				T.	.10								0.52
Zap	Knife																							.31							T.		0.31
Moorhead, Minn ***	Red				.05			.05				T.							.21	.17		.09	.30	.21				.10	.25		.08		1.51

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	67	57	57	73	70	53	76	72	78	78	82	80	79	74	68	80	74	56	68	65	69	74	52	45	38	34	38	40	43	41	40	62.0
	Minimum	37	27	21	53	48	41	47	35	30	35	50	40	31	31	38	60	41	32	44	36	32	28	33	33	25	29	29	32	29	32	27	35.7
Ashley	Maximum	70	60	70	77	68	61	70	69	77	77	77	73	66	70	78	63	54	..	65	67	75	59	45	39	35	38	37	51	40	37	32	[a]60.1
	Minimum	36	34	32	47	42	35	46	32	26	33	48	52	34	40	48	40	33	..	38	41	40	35	36	32	28	25	14	15	21	25	23	[a]34.4
Beach	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum	64	62	75	..	63	62	67	65	76	77	78	71	70	78	70	69	58	54	65	69	78	69	44	37	37	48	56	49	44	44	45	[a]61.5
	Minimum	35	31	..	32	42	39	42	25	22	25	42	51	24	38	39	35	39	35	30	32	42	25	32	32	32	23	20	20	36	20	7	[a]31.6
Bismarck	Maximum	66	56	72	74	60	63	70	68	77	73	78	71	65	80	71	72	59	52	66	67	73	51	44	36	40	38	46	52	43	35	41	60.0
	Minimum	42	37	34	44	41	37	46	36	29	35	52	47	32	41	38	46	33	34	40	42	45	32	33	32	25	23	21	13	30	25	21	35.0
Bottineau §§	Maximum	56	51	73	70	57	54	62	62	64	67	75	71	64	68	67	66	55	53	57	60	74	52	51	38	41	32	50	54	46	36	40	57.0
	Minimum	37	25	30	44	42	36	41	30	29	33	38	28	24	39	36	47	37	32	32	28	37	21	30	29	22	22	21	5	27	30	18	30.6
Bowbells §§	Maximum	55	61	75	67	56	58	60	63	70	65	73	63	62	67	63	61	53	51	60	71	51	43	41	40	37	47	52	47	48	35	43	56.1
	Minimum	33	21	32	42	36	36	35	32	33	30	30	41	28	38	28	28	23	28	31	31	21	30	24	26	31	28	23	16	32	20	15	29.1
Carson	Maximum	60	60	70	75	70	70	68	65	77	76	78	70	65	84	70	72	56	53	60	62	70	60	62	42	36	40	50	50	60	40	45	61.8
	Minimum	35	30	32	42	40	40	38	35	30	32	45	40	32	40	36	42	36	36	30	30	32	30	32	26	26	20	15	22	32	24	10	31.9
Crosby	Maximum	50	55	72	69	57	59	59	59	52	63	72	62	59	62	61	58	52	47	59	59	71	48	41	38	38	45	48	53	45	35	45	54.6
	Minimum	39	33	45	51	39	40	43	32	32	34	45	47	29	42	27	36	31	34	33	34	42	24	33	33	30	30	29	44	34	24	30	35.5
Devils Lake	Maximum	63	48	71	70	50	50	68	64	70	69	74	67	58	72	67	62	53	49	62	57	73	51	43	35	38	35	36	36	38	36	37	54.9
	Minimum	38	23	34	46	44	38	45	35	37	35	48	40	30	41	32	44	35	34	39	34	40	33	30	29	23	23	20	23	21	28	26	33.8
Dickinson	Maximum	63	57	73	72	70	66	64	63	75	78	76	68	69	87	69	70	49	53	62	68	74	46	43	37	36	46	52	53	54	38	47	60.6
	Minimum	42	40	33	40	40	40	38	32	23	30	43	52	26	34	36	42	37	37	35	26	39	25	33	30	33	28	34	36	25	13	33	33.9
Donnybrook	Maximum	66	58	74	65	60	56	63	63	73	68	75	68	64	..	65	61	55	52	61	65	74	66	45	35	37	44	53	50	46	38	41	[a]58.0
	Minimum	44	22	37	44	41	39	42	33	39	25	47	52	27	..	27	38	36	32	36	36	45	26	32	28	30	26	28	17	31	26	15	[a]33.4
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Edgeley	Maximum	72	61	70	79	72	61	72	70	77	76	80	75	67	75	69	78	71	57	68	66	73	67	46	42	37	35	31	50	43	41	41	62.0
	Minimum	36	33	29	42	39	41	47	38	34	34	47	50	33	29	39	41	40	27	42	40	37	37	35	32	30	27	14	17	23	34	25	34.6
Ellendale	Maximum	71	52	69	80	61	63	72	70	77	73	79	75	65	74	68	78	54	57	66	65	73	54	43	40	35	36	32	50	44	41	40	59.9
	Minimum	40	32	26	47	44	42	49	38	35	38	45	46	35	36	42	49	35	30	41	41	33	37	35	33	29	17	17	23	26	31	19	35.2
Fessenden §§	Maximum	66	58	73	75	62	53	70	65	75	70	78	70	64	78	66	68	56	52	65	62	76	69	41	34	39	39	43	45	40	37	37	58.9
	Minimum	36	21	30	40	43	35	41	30	30	29	42	50	28	33	30	45	35	26	35	36	30	27	30	28	28	24	15	17	22	29	28	31.2
Forman	Maximum	74	60	75	77	71	60	73	72	76	75	80	76	64	77	71	84	..	66	69	64	76	69	64	56	41	34	35	40	44	41	40	[a]63.5
	Minimum	38	36	27	51	47	44	47	35	30	40	41	46	32	37	41	54	..	32	46	38	36	42	36	35	30	30	29	29	23	34	28	[a]37.1
Fullerton	Maximum	71	60	70	78	65	63	71	70	76	72	79	74	63	74	69	76	58	57	67	64	73	57	44	40	36	34	32	48	43	40	39	60.1
	Minimum	37	36	25	55	46	48	49	36	33	52	43	48	30	36	53	50	45	29	41	40	30	28	32	33	30	26	19	21	22	33	24	36.8
Garrison	Maximum	62	52	70	66	64	62	67	65	72	70	76	69	65	77	68	68	65	50	63	65	66	67	60	36	42	41	48	49	46	38	41	59.7
	Minimum	40	26	26	37	38	37	41	33	31	27	48	50	25	35	31	40	39	32	33	37	40	45	32	29	30	20	20	17	34	25	12	32.6
Grafton §§	Maximum	56	66	49	71	70	66	50	71	63	73	78	70	60	71	66	63	59	66	50	59	72	68	49	43	..	35	35	40	40	38	35	[a]57.7
	Minimum	28	42	29	25	42	40	37	42	34	33	43	35	32	29	34	45	39	41	28	33	26	36	26	30	..	22	22	30	27	30	25	[a]32.8
Grand Forks	Maximum	66	52	70	73	55	52	71	65	68	68	71	70	58	68	64	61	55	52	64	59	70	63	46	36	31	34	37	39	36	37	33	55.6
	Minimum	38	29	26	50	42	40	40	38	33	36	50	52	34	29	35	48	41	32	44	33	30	40	32	30	24	30	31	32	31	28	26	35.6
Granville	Maximum	60	60	72	65	57	58	65	52	74	70	76	67	70	74	75	64	58	53	64	65	76	56	55	40	45	40	52	50	40	35	45	59.1
	Minimum	40	20	30	38	43	35	45	32	35	30	47	42	40	35	28	30	32	30	34	35	36	30	30	28	30	20	18	15	22	28	28	31.8
Hannah	Maximum	51	64	57	80	60	71	69	70	74	75	77	65	62	70	65	65	64	54	55	67	76	65	54	45	50	51	48	40	36	36	38	59.9
	Minimum	20	30	29	34	34	35	38	37	30	34	36	37	25	31	39	34	32	28	29	33	38	41	33	27	26	14	12	19	14	28	25	29.7
Hansboro	Maximum	62	48	70	68	58	48	57	..	70	67	75	68	56	70	65	63	53	50	59	57	74	71	45	39	40	33	44	33	38	33	37	[a]55.0
	Miuimum	34	20	30	33	40	30	40	..	40	30	43	48	30	30	30	42	37	29	35	30	31	31	26	27	15	21	15	13	22	28	24	[a]30.1
Hettinger	Maximum	68	56	70	76	76	66	68	68	78	78	79	70	70	90	72	77	71	64	62	73	69	62	42	38	41	62	53	56	56	38	38	64.1
	Minimum	37	36	32	40	43	34	36	30	23	32	42	48	28	30	36	36	34	38	33	30	32	28	32	17	28	26	20	28	28	26	8	31.3
Howard	Maximum	49	61	76	70	68	68	62	62	69	69	76	66	66	66	66	62	54	58	60	65	72	52	40	42	32	42	57	42	47	47	42	58.3
	Minimum	35	22	30	38	32	32	38	30	30	33	40	45	25	30	30	48	32	39	32	28	38	19	30	22	30	26	31	34	30	8	17	30.8
Jamestown §§	Maximum	68	71	72	75	72	63	72	..	..	..	77	71	75	76	74	79	75	75	66	88	74	72	83	78	57	60	30	43	47	45	40	[c]67.1
	Minimum	37	30	26	48	45	41	38	33	32	36	50	52	32	35	36	40	41	32	42	35	38	37	32	30	17	19	23	27	34	28	35	[c]54.3
Lakota	Maximum	64	49	..	70	..	..	69	..	70	62	60	56	70	68	65	62	52	54	63	50	68	47	40	35	..	35	31	40	40	..	37	[f]54.3
	Minimum	33	22	25	..	..	..	37	..	40	30	30	26	38	34	33	40	40	33	40	29	33	27	28	25	..	25	15	25	..	18	24	[f]30.0
Lamoine	Maximum	63	55	72	73	62	55	68	64	72	71	76	70	63	78	65	68	59	54	62	63	74	66	43	34	38	39	46	47	40	36	36	58.5
	Minimum	22	21	28	42	38	31	42	30	30	32	44	44	23	38	34	47	38	27	35	35	36	25	30	27	26	20	13	4	21	25	23	30.0
Langdon	Maximum	62	50	72	74	62	44	62	62	71	70	76	66	58	68	70	64	61	44	61	56	71	65	46	42	37	28	38	36	37	34	36	55.6
	Minimum	36	22	28	42	42	34	42	32	29	34	43	47	25	34	32	44	38	33	32	29	34	31	26	29	15	23	15	25	15	30	20	31.0
Larimore §§	Maximum	69	69	68	70	55	55	70	68	70	70	76	72	69	69	68	62	61	55	64	63	70	71	51	43	35	32	33	40	40	41	39	58.6
	Minimum	34	37	48	46	34	38	37	37	40	40	49	47	34	34	36	45	40	35	41	37	35	38	34	31	24	28	28	29	27	31	25	36.1
Lisbon §§	Maximum	66	63	67	65	52	56	60	58	63	69	74	72	69	66	60	54	45	43	46	49	44	46	44	40	45	47	43	42	44	48	47	54.4
	Minimum	40	41	44	40	39	36	43	36	39	39	43	39	41	38	39	34	30	31	29	30	28	31	26	29	24	24	29	19	24	21	24	33.2
McHenry	Maximum	64	67	59	62	68	57	65	71	73	69	66	71	69	62	67	68	73	74	70	65	76	59	51	50	50	49	39	40	43	44	39	60.6
	Minimum	29	30	22	29	41	33	36	38	41	40	39	30	26	28	30	28	36	32	30	26	40	40	30	24	22	24	14	26	20	26	25	30.2
McKinney	Maximum	60	56	74	62	60	60	65	65	62	62	75	72	62	68	65	65	64	62	61	62	75	70	70	45	40	42	52	50	40	40	42	59.6
	Minimum	33	23	28	23	40	35	31	32	22	21	35	45	26	30	21	20	25	29	35	31	40	28	30	30	30	20	20	10	21	28	22	27.9
Maddock	Maximum	63	60	70	71	60	53	66	67	71	70	75	74	63	74	72	65	60	52	63	62	75	74	46	41	39	37	40	46	43	37	36	58.9
	Minimum	39	20	28	40	46	40	44	33	33	29	45	53	26	31	28	46	40	27	38	31	30	30	30	28	30	25	17	18	22	32	28	32.5
Marmarth	Maximum	63	62	70	72	75	71	61	62	73	76	72	70	71	82	70	71	51	51	58	69	71	56	43	48	38	50	55	52	48	34	55	61.3
	Minimum	40	33	32	32	40	40	38	41	30	39	44	37	32	38	37	41	34	38	35	34	35	27	31	21	29	26	20	31	31	24	14	33.0
Minot §§	Maximum	66	60	76	72	58	56	66	64	74	72	75	72	68	67	65	60	75	55	67	77	77	65	47	37	39	42	55	52	44	40	43	60.8
	Minimum	41	15	23	25	26	22	26	18	24	27	34	32	18	13	28	37	22	28	30	31	35	17	22	24	28	12	19	6	21	23	17	24.0
Mott	Maximum	73	70	76	75	80	65	70	72	77	78	76	73	70	82	69	80	66	67	65	72	71	63	40	55	44	50	46	57	62	70	63	67.0
	Minimum	30	32	35	37	37	30	29	31	21	25	25	28	30	32	30	31	28	30	27	30	33	28	24	25	20	25	16	22	30	34	32	28.6
Napoleon §§	Maximum	60	58	73	75	68	63	72	70	76	79	80	73	67	84	72	75	58	55	66	65	77	67	43	37	38	41	45	50	45	38	36	61.5
	Minimum	21	33	28	43	42	34	45	34	27	28	45	50	25	38	34	49	38	28	34	40	37	30	33	30	28	24	13	8	20	25	21	31.8
New England	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
New Salem	Maximum	65	56	69	72	65	74	83	65	77	75	75	70	80	84	69	68	56	50	64	74	72	52	45	44	37	41	48	45	40	36	42	61.1
	Minimum	50	36	29	42	38	50	40	32	29	35	40	50	30	38	32	32	35	31	34	34	39	24	30	30	24	20	15	15	28	15	11	31.9
Orange	Maximum	68	63	70	78	75	67	69	68	77	71	76	79	74	68	85	73	77	62	55	64	69	71	69	64	39	39	37	54	47	49	35	64.3
	Minimum	36	37	32	38	38	39	40	28	21	20	32	41	44	24	30	30	37	32	38	34	25	43	28	31	26	28	25	19	22	24	17	30.9
Park River	Maximum	65	48	70	70	50	50	69	62	72	70	76	70	71	57	64	62	49	49	63	58	73	..	59	35	34	33	32	42	37	36	..	[b]56.0
	Miuimum	39	28	28	37	45	38	40	38	37	40	46	52	36	31	28	43	40	28	35	36	27	32	..	29	22	24	18	20	26	31	25	[a]33.3
Pembina §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Steele	Maximum	67	69	70	70	69	70	70	69	73	75	81	79	69	70	71	55	55	67	72	75	70	42	38	38	35	45	46	45	38	38	35	60.2
	Minimum	40	38	38	42	43	43	38	33	32	30	44	48	40	38	40	42	38	42	40	42	38	36	28	27	25	18	10	35	30	28	24	35.3
Towner	Maximum	62	55	72	70	58	55	66	65	71	68	77	73	68	73	64	65	65	53	68	62	70	65	58	38	43	39	49	40	49	39	36	59.2
	Minimum	42	24	31	38	42	32	43	21	33	28	43	52	22	38	23	42	33	30	38	31	36	27	30	27	32	22	20	17	20	30	20	31.2
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton §§	Maximum	72	68	67	68	73	60	69	71	76	78	81	82	72	72	72	79	82	61	68	66	74	72	52	49	45	40	39	39	43	42	38	63.5
	Minimum	29	27	33	54	48	41	50	37	31	35	45	46	38	30	32	33	42	34	44	38	36	44	33	34	30	30	31	33	32	30	22	36.2
Washburn	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum	63	54	75	61	68	58	63	63	70	69	76	64	65	67	65	62	58	58	58	63	71	55	55	35	43	36	52	50	39	36	42	57.9
	Minimum	25	22	30	43	38	32	43	43	31	28	42	48	24	36	27	40	29	32	34	37	35	30	24	30	30	20	20	10	19	27	28	31.2
Williston	Maximum	56	61	73	68	66	61	62	62	71	72	76	66	66	65	62	51	49	61	66	72	50	43	40	35	50	56	53	46	36	48	58.4
	Minimum	41	32	36	48	38	46	41	36	34	30	45	40	29	40	30	38	38	41	37	34	41	28	33	32	31	34	32	35	34	18	13	35.0
Willow City	Maximum	62	58	71	62	56	55	62	62	66	66	73	63	58	67	60	64	52	48	58	58	73	53	45	40	43	40	48	49	38	36	39	55.6
	Minimum	38	20	30	36	41	34	39	30	29	28	38	49	24	32	24	43	37	30	32	26	35	25	26	29	26	20	17	15	26	32	28	30.1
Zap	Maximum	64	57	72	72	62	63	67	65	75	75	77	69	67	83	69	69	58	54	65	69	77	66	42	35	37	44	53	54	45	41	43	60.9
	Minimum	36	33	31	36	34	35	37	28	23	26	44	48	26	36	29	39	38	32	31	29	43	20	31	30	29	20	19	18	35	21	8	30.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Statute Miles
Kilometers

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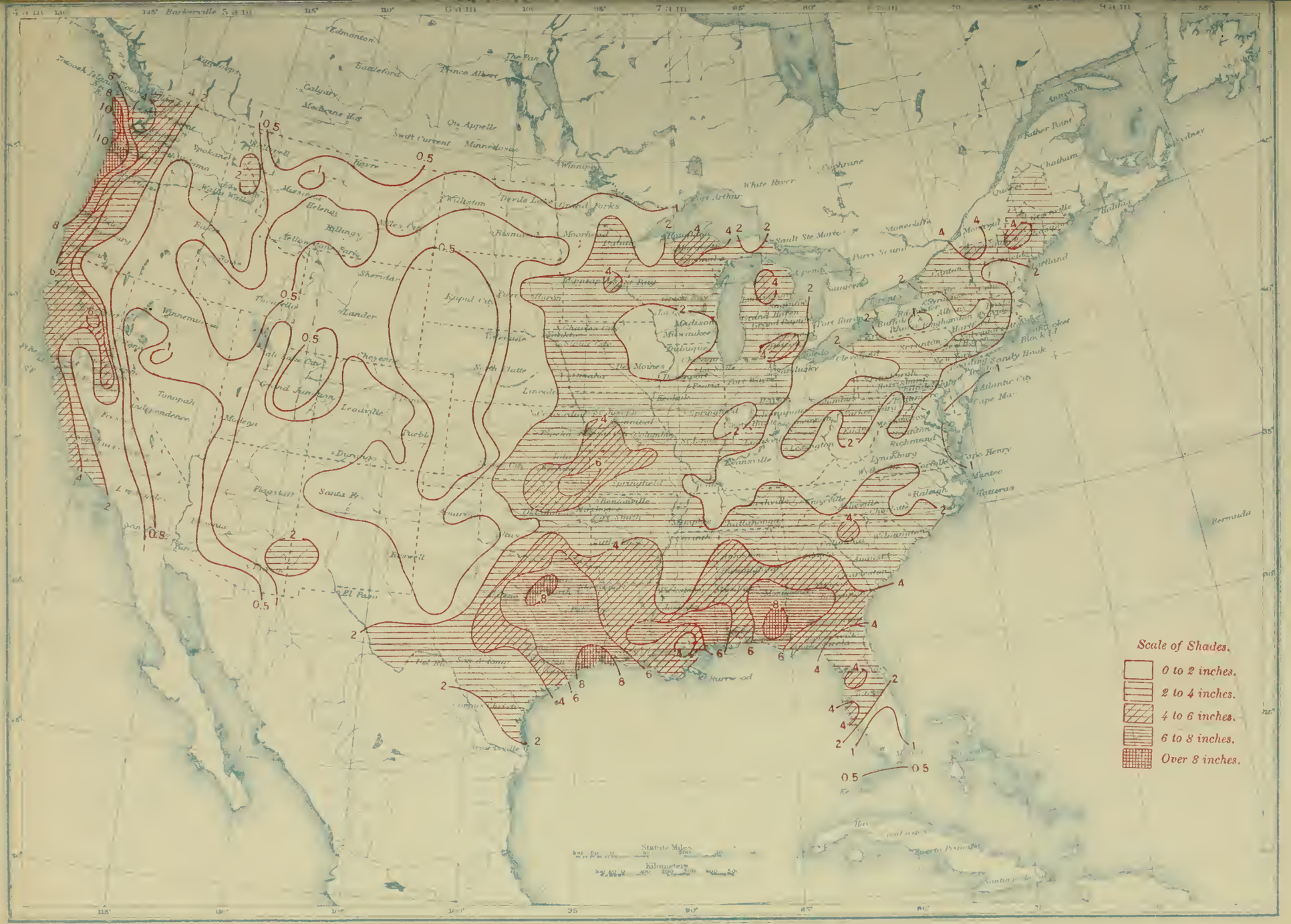
CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 16, 1919.


Scale of Shades.
0 to 2 inches.
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U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., NOVEMBER, 1918. No. 11.

GENERAL SUMMARY.

The month opened with the temperature considerably above the normal and scattered showers occurred from the 2d to the 5th, inclusive. Several thundershowers occurred on the 5th, which is a rare occurrence in these latitudes. From the 6th to the 9th, inclusive, considerably cooler weather prevailed and snowfall was general on the 7th and 8th. During the following ten days warmer weather again prevailed and the snow disappeared generally, except over the region of the heavier falls in the east-central portion of the State. During the last decade fair weather with nearly normal temperature prevailed. The snowfall of the 7th and 8th stopped threshing which had not been generally completed on account of the shortage of farm labor, due to war demands and sickness, but with the disappearance of the snow threshing was resumed and practically completed during the month. Stock did well during the month, as the mild weather and the consequent rapid melting of the snow allowed continued grazing on pastures and ranges, thus relieving the shortage of stored forage. E. G. L.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.02 inches. The highest was 30.86 inches at Bismarck and Williston on the 22d; the lowest was 29.38 inches at Williston on the 15th.

TEMPERATURE.

The mean temperature for the State was 28.9 degrees, or 2.3 degrees above the normal, and 7.9 degrees lower than the mean for November, 1917. The highest mean reported was 33.2 degrees at Wahpeton, Richland County; the lowest was 25.4 degrees at Willow City, Bottineau County. The highest temperature reported was 71 degrees at Marmarth, Bowman County, on the 4th; the lowest was -18 degrees, also at Marmarth on the 23d. The greatest monthly range of temperature was 89 degrees at Marmarth; the least was 48 degrees at Pembina, Pembina County. The greatest daily range was 51 degrees at Lisbon, Ransom County, on the 10th. The temperature was above normal at nearly all stations, the plus departures being greatest in the eastern portion of the State. Usually the highest temperature occurred on the 3d, 4th or 5th, and the lowest on the 22d or 23d.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 84 per cent, the average at 7 a. m. being 88 per cent, and at 7 p. m. 80 per cent.

PRECIPITATION.

The average precipitation for the State was 1.04 inches, or 0.46 inch above the normal, and 0.90 inch more than the average for November, 1917. The greatest monthly amount reported was 2.62 inches at Minot, Ward County; the least was 0.10 at Dickinson, Stark County. The greatest amount recorded in any twenty-four consecutive hours was 1.45 inches at Grand Rapids, LaMoure County, on the 16th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall for the State was 5.3 inches; the amounts were generally less than five inches in the western half of the State and in the Red River Valley, but between these sections the amounts varied from ten to eighteen inches. Nearly all of the precipitation at most stations fell during the period from the 2d to the 9th, inclusive, the heavier amounts, which were mostly in the form of snow, falling from the 7th to the 9th, inclusive; there was also a general rain in the Red River Valley on the 16th and 17th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 10.3 miles. The greatest wind movement was 9,988 miles at Ellendale, an average of 13.9 miles per hour; the least was 5,509 miles at Williston, an average of 7.7 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 58 miles per hour from the northwest at Ellendale on the 17th.

SUNSHINE AND CLOUDINESS.

The amount of sunshine averaged about the normal; the average number of clear days was 13, partly cloudy days 6, and cloudy days 11.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cldy days.	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.81	+0.23	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	18	1.04	+0.46	4	13	6	11	nw.

Climatological Data for November, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	33.0	+6.7	69	5	9	23†	40	0.45	−0.05	0.15	1.0	6	9	4	17	nw.	E. R. Carley.
Ashley	McIntosh	2,001	21	29.7	+2.5	58	3	2	23	33	1.21	+0.69	0.80	11.0	3	15	6	9	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	.....	.....	.....	.....	.....	.....	.....	0.48	−0.04	0.36	4.0	2	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency††	McLean	2,082	24	31.2	+3.7	63	4†	− 5	23†	43	0.23	−0.31	0.12	1.7	3	18	4	8	nw.	C. L. Hall.
Bierman	Slope	.....	2	30.0	.....	61	4	−10	23	30	0.37	.....	0.10	3.7	5	13	1	16	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	31.4	+5.4	56	3	2	23	31	0.51	−0.17	0.22	3.5	3	15	5	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	26.4	+4.2	52	3†	− 1	22	37	0.62	+0.02	0.35	5.1	5	8	7	15	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	25.6	.....	55	4	− 2	22	32	0.70	.....	0.35	.....	3	26	0	4	.....	G. H. Phelps.
Bowman	Bowman	.....	4	29.3	.....	69	4	−16	24	44	0.21	.....	0.10	2.6	4	16	5	9	nw.	M. W. Madsen.
Buford	Williams	1,944	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	1.23	+0.75	0.40	.....	6	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	6	31.2	.....	62	4	− 8	23	37	0.55	.....	0.25	3.0	3	19	1	10	nw.	J. W. Evens.
Colgate	Steele	1,177	4	28.8	.....	65	5	7	23†	37	0.90	.....	0.60	3.0	3	15	3	12	nw.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	1.05	+0.67	0.65	3.0	3	13	11	6	w.	S. Friswold.
Crosby	Divide	1,954	11	27.0	+0.2	52	3	3	23	29	0.92	+0.01	0.52	4.0	3	16	6	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	14	27.1	+4.5	59	5	6	29	28	1.80	+1.09	0.76	8.9	9	8	5	17	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	30.6	+3.3	63	4	− 5	23	38	0.10	−0.43	0.10	1.0	1	18	2	10	w.	J. C. Thysell.
Donnybrook	Ward	1,760	19	30.0[a]	+2.0	56[a]	3	4[a]	22	32[a]	1.28	+0.65	0.68	0.8	3	.....	.....	.....	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.18	1.2	3	17	2	11	sw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	26.7	+1.7	50	2	− 2	22†	27	1.31	+0.96	0.60	8.0	7	8	7	15	n.	J. G. Lamont.
Eckman	Bottineau	.....	13	28.4	+2.1	53	3	2	22†	34	1.23	+0.73	0.73	4.0	3	17	2	11	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	30.2	−0.2	63	5	1	10	33	1.03	+0.71	0.57	.....	3	0	16	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	29.4	.....	65	5	3	9	39	2.16	.....	0.89	10.3	5	10	5	15	nw.	U. S. Weather Bureau.
Energy††	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.42	.....	0.20	.....	3	11	11	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.20	6.0	3	19	5	6	nw.	M. E. Uggen.
Fessenden	Wells	1,610	6	27.0	.....	58	5	− 6	10	42	1.71	.....	1.00	13.0	4	18	1	11	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	31.8	+4.6	66	5	5	23	32	2.05	+1.54	0.81	3.7	9	11	8	11	nw.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.24	5.0	3	18	6	6	w.	Verne King.
Fullerton	Dickey	1,439	20	29.2	+0.8	66	5	1	10	37	2.58	+1.90	0.98	12.6	4	9	9	12	nw.	F. O. Alin.
Garrison	McLean	1,901	23	29.9	+4.9	55	15	− 1	23	32	0.44	−0.24	0.13	1.5	5	17	5	8	nw.	G. L. Robinson.
Grafton	Walsh	827	26	28.6[b]	+6.1	63[b]	6	8[b]	22†	35[b]	1.12	+0.48	0.37	.....	5	8	8	14	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	26	30.1	+4.8	65	5	10	29	30	1.03	+0.30	0.38	5.7	7	8	5	17	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	28.8	.....	65	5	− 7	10	38	2.45	.....	1.45	6.0	4	15	1	14	nw.	G. H. Leick.
Granville	McHenry	1,504	11	29.4	+3.3	57	3	5	9†	37	1.30	+0.85	0.80	9.0	5	15	6	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	13	26.0	+2.7	48	4	− 2	23	28	1.92	+1.28	0.70	7.0	3	12	4	14	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	27.0	.....	56	3†	0	23	35	0.57	.....	0.50	6.0	3	8	8	14	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. J. Downey.
Hillsboro	Traill	901	12	30.8	+2.0	64	5	8	23	28	0.90	+0.15	0.30	T.	4	14	6	10	n.	F. E. Mayall.
Howard	Williams	2,275	11	25.5	−1.2	56	3†	− 3	25	36	0.75	+0.15	0.40	7.2	3	15	7	8	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	31.6	+5.1	62	5	− 2	10	36	1.68	+0.95	.....	7.5	6	.....	.....	.....	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	27.3[a]	+3.6	62[a]	5	3[a]	29†	31[b]	1.34	+0.64	0.67	13.0	5	.....	.....	.....	nw.	G. R. Pettes.
Lamoine	Kidder	1,936	10	26.5	−0.5	55	3†	0	23	31	0.40	−0.16	0.40	4.0	1	16	3	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	22	26.2	+1.1	56	5	2	23†	25	1.66	+1.12	0.78	6.0	4	17	5	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	31.4	+7.0	61	5	9	30	28	0.85	+0.47	0.35	3.0	3	12	10	8	ne.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	28.4	−1.8	63	10	6	25	51	0.45	−0.06	0.25	4.5	2	24	1	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	0.96	.....	0.50	7.0	4	20	4	6	nw.	Edw. Tapley.
McHenry	Foster	1,509	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Trudeau.
McKinney	Renville	1,640	24	28.8	+5.6	60	3	0	22	36	0.40	−0.27	0.30	1.0	2	10	11	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	32.6	.....	66	5	5	23	30	1.23	.....	0.65	0.8	6	13	4	13	nw.	R. D. Markland.
Maddock	Benson	1,604	3	26.9	.....	57	5	1	10	35	2.01	.....	1.32	.....	3	6	7	17	nw.	F. P. Cowing.
Mandan	Morton	1,644	4	30.0	.....	55	3	− 3	23	35	0.45	.....	0.20	2.8	3	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	27.2	−1.1	58	5	0	10	35	2.05	+1.37	1.00	18.0	7	13	6	11	nw.	P. B. Anderson.
Marmarth	Slope	.....	9	28.8	.....	71	4	−18	23	41	0.66	.....	0.20	5.0	6	14	4	12	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	25.8	.....	62	5	−12	10	45	1.75	.....	0.80	13.0	3	12	6	12	nw.	Grace Williamson.
Mayville	Traill	975	22	31.6	+3.8	68	5	5	26	31	0.83	+0.16	0.45	.....	2	15	4	11	n.	W. C. Gould.
Melville	Foster	1,590	20	26.2	−1.3	48	4	− 2	10	26	2.03	+1.61	0.85	8.0	4	.....	.....	.....	nw.	J. P. Kidder.
Minor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	1.62	.....	0.61	3.5	4	13	3	14	nw.	Hj. Edman.
Minot	Ward	1,557	22	28.4	−0.4	59	14	− 1	22	39	2.62	+1.99	1.10	12.2	5	14	5	11	nw.	W. I. Faris.
Minto	Walsh	820	25	31.2	+6.7	63	5	9	30	27	1.24	+0.68	0.40	2.5	7	10	6	14	n.	C. M. Evans.
Mott	Hettinger	2,424	11	28.5	−1.4	60	1	− 9	23	33	0.52	+0.04	0.21	2.8	5	12	6	12	nw.	O. H. Opland.
Napoleon	Logan	1,955	26	29.6	+4.6	59	3	− 1	24	35	0.74	+0.04	0.30	6.0	4	16	3	11	w.	C. J. Hoof.
New England	Hettinger	2,400	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. S. Lowis.
New Salem	Morton	2,163	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Christiansen.
Orange ††	Adams	2,586	9	30.4	.....	64	4	−13	24	45	0.34	.....	0.34	0	1	9	12	9	nw.	T. F. Young.
Park River	Walsh	998	14	29.6[b]	+1.6	63[b]	5	5[a]	22	31[b]	0.44	−0.32	0.12	3.0	3	.....	.....	.....	nw.	J. P. George.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	28.0	+5.8	54	5	6	29	36	0.81	+0.09	0.20	7.5	9	7	14	9	nw.	C. W. Shumaker.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.30	4.0	2	8	15	7	nw.	C. Frank.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Steele	Kidder	1,857	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. S. Wood.
Taylor	Stark	2,493	2	27.0	.....	52	4	− 4	23	27	0.29	.....	0.12	.....	3	20	6	4	nw	H. Leutz.
Towner	McHenry	1,482	16	26.7	+2.6	57	2	0	23†	39	1.13	+0.67	0.80	8.0	2	14	4	12	nw.	B. Bagley.
Valley City	Barnes	1,245	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bruns.
Wahpeton	Richland	962	24	33.2	+6.4	69	6	6	23	33	1.22	+0.55	0.50	.....	4	16	0	14	nw.	F. E. Smith.
Walhalla	Pembina	966	11	31.0	+3.9	60	5	6	22†	32	1.69	+1.11	0.76	1.5	5	14	7	9	n.	Ivan Lee.
Washburn	McLean	1,734	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	26.2	−0.1	53	3	1	22	32	0.78	+0.30	0.58	.....	3	12	10	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	39	29.2	+4.0	59	4	2	24	34	1.04	+0 44	0.85	2.3	4	10	11	9	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	25.4	+4.6	56	5	− 1	10†	37	1.62	+1.21	1.20	13.0	4	9	9	12	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	29.8	.....	62	4	− 6	23	40	0.23	.....	0.13	1.3	4	18	4	8	nw.	H. A. Crandall.
Moorhead, Minn	Clay	935	37	32.2	+7.8	65	5	8	23	27	1.27	+0.29	0.72	2.2	6	11	6	13	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	28.9	+2.3	71	4	−18	23	51	1.04	+0.46	1.45	5.3	4	13	6	11	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.

Daily Precipitation for November, 1918.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red					.05		.03	.08	.10							.04	.15															0.45
Ashley	Missouri		T.	.11	T.			.80	.30																						1.21
Beach	Lit. Missouri													T.		.36									.12							0.48
Berthold Agency	Missouri					.10	.12		.01									T.				T.										0.23
Bierman	Lit. Missouri					.10	T.	.10	.05													.10								.02		0.37
Bismarck ***	Missouri		.22			T.	T.	.11	.18								T.	T.			T.	T.	T.									0.51
Bottineau	Mouse			.02	T.	.21	.03	T.	.35	T.																					.01	0.62
Bowbells ‖ ‖	Mouse					.20	.35			.15																						0.70
Bowman	Grand		.10					.04	.04												T.	.03							T.	T.		0.21
Buford	Missouri																															
Cando	Sheyenne			.40	.01	.09		.10	.33									.30														1.23
Carson	Heart		.25					.20	.10																							0.55
Colgate	Sheyenne							.20	.10								.60															0.90
Cooperstown	Sheyenne					.10			.30								.65				T.	T.								T.		1.05
Crosby	Mouse					.52	.20		.20																							0.92
Devils Lake ***	Sheyenne		.05	.01	.01	.39		.46	.34								.21	.21		T.		T.	T.								.12		1.80
Dickinson	Heart		T.			T.		.10													T.											0.10
Donnybrook	Mouse					.68	.44	T.	.16														T.									1.28
Dunn Center	Knife			.15				.18	.07	T.											T.	T.										0.40
Dunseith	Monse			.04	.02	.37	.02	.06	.60													T.									.20	1.31
Eckman	Mouse					.73	.10	T.	.40									T.													T.	1.23
Edgeley	James			T.	T.				.34	T.						T.	.12	.57														1.03
Ellendale	James		.35		T.		.09	.89	.05							T.	.78	T.	T.			T.	T.										2.16
Energy	Missouri		.19			.03		.20													T.	T.										0.42
Epping	Missouri					.20	.06		.13													T.										0.39
Fessenden	James			.30		.11		.30	1.00													T.	T.							T.	T.	1.71
Forman	Sheyenne		.10		.02	.03		.35	.02								.45	.81	.02	T.	.25									T.		2.05
Fryburg	Lit. Missouri		T.			.20			.24													.10							T.			0.54
Fullerton	James		.34				.80	.46	T.								.98					T.										2.58
Garrison	Missouri		.06	.07		T.	.13	.05	.13																					T.		0.44
Grafton ‖ ‖	Red					.22			.37	.13								.36													.04	1.12
Grand Forks ***	Red	T.				.03	T.	.19	.38						.01	T.	.23	.18		.01		T.								T.	T.	1.03
Grand Rapids	James			.30				.50	.20								1.45															2.45
Granville	Mouse		T.			.34	.04	.02	.80																						.10	1.30
Hannah	Pembina					.57				.70								.65					T.							T.		1.92
Hansboro	Red			.01		.06			.50																							0.57
Hettinger	Grand																															
Hillsboro	Red					.03			.29	T.							.30	.28				T.								T.	T.	0.90
Howard	Missouri					.30		.05	.40												T.	T.										0.75
Jamestown	James			.25		.13	.05	*	.70									.55														1.68
Lakota	Sheyenne				T.	.15		T.	.12	.36							T.	T.	.67		T.	T.								T.	.04	1.34
Lamoine	Missouri		T.					T.	.40								T.														T.	0.40
Langdon	Pembina			.03		.25	T.	T.	T.	.60								.78			T.										T.	1.66
Larimore	Red					.20			.30									.35														0.85
Linton	Missouri																															
Lisbon	Sheyenne						T.	.20	.25																						T.	0.45
McClusky	Missouri		.22		.04			.20	.50																							0.96
McHenry	James																															
McKinney	Mouse					.30			.10																							0.40
McLeod	Sheyenne					.08		.10	.03	.05							.65	.32			T.	T.									T.	1.23
Maddock	Sheyenne			.60	.09					1.32																						2.01
Mandan ‖ ‖	Missouri		*	.20		T.		.06	T.	.16												T.	T.	T.								0.45
Manfred	Sheyenne		T.	.22		.11	.05	.50	1.00	.15		T.																			.02	2.05
Marmarth	Lit. Missouri	T.	.20		T.	.01		*	.20													.17	.08									0.66
Marstonmoor	James			.45				.50	.80	T.							T.	T.			T.	T.									T.	1.75
Mayville	Red									.38								.45														0.83
Melville	James			.85	.13				.80								.25														T.	2.03
Milnor	Red			T.	T.			.35	.10								.61	.56	T.			T.									T.	1.62
Minot	Mouse		.19			.55	.75	.03	1.10																							2.62
Minto	Red					.36		.04	.40									.39		.02	.02										.01	1.24
Mott	Cannon Ball		.21					.17	.06								.06						.02									0.52
Napoleon	Missouri		.20			.04		.30	.20																							0.74
New England	Cannon Ball																															
New Salem	Heart																															
Orange	Cannon Ball		.34																													0.34
Park River	Red					.02			.30									.12											T.			0.44
Parshall	Missouri																															
Pembina	Red									.20		.15			.05						.15			.02	.02	.01	.01			.20			0.81
Powers Lake	Missouri					.30	.10	T.	T.							T.														T.		0.40
Sanish	Missouri																															
Steele	Missouri																															
Taylor	Heart		.10			T.	.07	.12	T.																							0.29
Towner	Mouse		T.			.33		T.	.80																							1.13
Valley City	Sheyenne																															
Wahpeton	Red					.05			.40								.50	.27														1.22
Walhalla	Pembina					.44		T.	.05								.76	.34	T.	T.		T.	.10										1.69
Washburn	Missouri																															
Westhope	Mouse					.58	.12		.08																							0.78
Williston ***	Missouri					.81	.04	.01	.18												T.	T.	T.								T.	1.04
Willow City	Mouse			.10	T.	.22		T.	1.20																						.10	1.62
Zap	Knife		.13			.03		.02	.05													T.	T.									0.23
Moorhead, Minn ***	Red					.02		.32	.19								.50	.23	T.	T.	T.										.01	1.27

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	49	52	56	54	69	45	35	35	35	38	38	38	45	49	39	50	45	37	35	35	33	25	32	37	30	38	45	47	49	30	....	41.7
	Minimum	24	21	31	29	43	33	29	28	27	32	27	28	26	22	25	35	34	31	30	30	20	12	9	13	24	13	13	18	9	16	....	24.1
Ashley	Maximum	54	56	58	51	56	41	32	32	32	38	47	45	44	55	45	37	38	38	33	30	28	22	25	28	25	34	42	35	35	37	....	39.1
	Minimum	21	23	30	35	41	31	24	20	12	9	20	27	20	25	25	28	30	22	21	22	15	8	2	5	14	9	18	16	15	20	....	20.3
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Berthold Agency	Maximum	53	48	58	63	41	55	38	36	42	63	49	44	60	63	56	45	39	44	41	31	28	24	30	34	35	41	42	35	40	38	....	43.6
	Minimum	31	20	19	36	27	40	25	26	16	20	30	22	20	20	19	19	30	27	10	22	18	10	− 5	− 5	10	1	15	14	15	16	....	18.9
Bismarck	Maximum	54	51	56	54	54	37	33	33	37	47	52	47	52	54	54	35	37	41	44	29	27	21	27	34	34	40	43	38	39	42	....	41.5
	Minimum	26	21	26	39	37	27	26	27	19	22	27	27	25	25	25	23	29	21	17	22	15	7	2	3	15	10	17	17	22	22	....	21.4
Bottineau §§	Maximum	47	51	52	45	52	43	30	36	33	32	40	32	37	45	47	43	33	33	29	29	29	19	27	28	27	30	38	36	24	24	....	35.7
	Minimum	21	22	15	34	42	26	21	25	9	5	25	20	11	19	21	29	31	23	13	22	15	− 1	1	4	19	5	9	19	4	8	....	17.2
Bowbells §§	Maximum	48	42	46	55	44	26	33	32	34	42	42	34	48	52	45	40	45	32	25	20	20	20	20	28	30	36	39	30	33	32	....	35.8
	Minimum	21	20	21	23	29	21	12	21	8	12	27	21	17	24	23	26	13	15	17	13	15	− 2	0	2	9	8	16	12	9	12	....	15.3
Carson	Maximum	55	56	56	62	52	55	40	32	40	50	50	50	60	60	55	44	35	40	50	30	25	22	25	32	35	40	35	39	42	44	....	43.6
	Minimum	30	26	28	35	30	25	22	25	10	22	30	25	26	27	25	20	28	12	20	15	15	8	− 8	− 5	12	5	14	12	13	14	....	18.7
Crosby	Maximum	48	49	52	52	43	33	39	33	29	36	38	34	36	48	40	35	32	34	30	26	26	18	16	20	22	27	30	33	32	34	....	34.2
	Minimum	27	29	23	35	33	24	19	25	12	19	31	20	22	24	26	22	28	24	22	19	17	8	3	5	8	8	15	18	15	17	....	19.9
Devils Lake	Maximum	45	49	54	48	59	37	31	32	24	32	41	33	37	43	44	36	34	32	32	29	22	16	26	27	26	29	37	29	26	26	....	34.5
	Minimum	26	21	29	34	37	26	26	23	9	9	22	18	17	21	22	32	29	26	26	22	10	8	7	11	19	12	20	15	6	8	....	19.7
Dickinson	Maximum	55	47	55	63	40	34	36	32	39	50	49	47	61	62	57	45	32	45	41	28	25	21	23	27	29	38	36	39	36	44	....	41.2
	Minimum	34	27	22	34	37	22	25	25	14	24	32	25	25	24	21	23	23	13	14	23	18	10	− 5	1	10	8	22	18	14	21	....	20.1
Donnybrook	Maximum	53	49	56	55	54	38	31	34	35	41	44	40	52	54	48	39	....	40	34	30	28	23	25	33	35	39	40	35	37	32	....	[a]39.7
	Minimum	25	24	26	30	37	20	15	31	28	22	34	24	20	31	24	23	....	12	14	21	18	4	6	10	15	12	17	15	14	14	....	[a]20.2
Dunseith	Maximum	46	50	50	44	45	40	27	34	33	39	44	40	35	49	47	37	34	35	30	29	27	24	25	35	23	34	37	35	23	24	....	35.8
	Minimum	22	19	22	34	38	25	20	24	14	5	24	26	12	18	25	29	30	27	18	23	23	− 2	− 2	7	10	5	9	12	5	5	....	17.6
Edgeley	Maximum	53	51	58	53	63	49	35	31	33	34	41	40	42	43	50	38	45	35	34	33	31	19	21	33	31	36	44	35	35	35	....	39.4
	Minimum	18	19	27	30	48	32	25	22	15	1	16	25	17	25	31	30	25	32	25	26	17	6	6	11	17	14	16	19	15	19	....	21.0
Ellendale	Maximum	55	55	52	59	65	40	31	33	32	31	44	42	39	40	40	39	35	36	33	32	28	16	30	30	27	36	43	36	35	35	....	38.3
	Minimum	16	21	27	32	37	31	29	23	3	5	15	25	18	23	27	33	34	27	27	28	16	7	4	7	16	10	12	19	20	19	....	20.4
Fessenden §§	Maximum	45	52	56	51	58	48	30	31	32	36	43	36	39	44	45	35	34	33	28	28	28	17	28	33	27	35	40	33	34	27	....	36.9
	Minimum	20	19	25	30	45	25	23	23	4	− 6	19	22	8	17	17	30	30	20	21	21	14	6	2	5	19	9	15	11	10	10	....	17.1
Forman	Maximum	52	53	47	51	66	57	36	34	34	40	40	40	47	44	47	50	50	35	34	35	33	20	30	31	36	36	42	32	32	34	....	40.6
	Minimum	20	21	29	29	50	34	30	21	16	8	21	24	17	27	30	30	34	30	32	30	19	13	5	11	19	16	19	18	15	19	....	22.9
Fullerton	Maximum	53	53	51	57	66	45	32	34	32	31	42	38	37	39	37	33	36	34	33	32	29	17	30	31	36	36	42	36	34	34	....	38.0
	Minimum	16	19	28	32	43	31	26	26	13	1	14	24	16	27	25	29	28	26	27	28	17	9	5	11	10	10	13	19	18	19	....	20.3
Garrison	Maximum	53	48	54	52	49	40	32	31	31	44	45	41	52	52	55	42	35	40	41	33	27	27	22	33	33	36	40	35	37	33	....	39.8
	Minimum	22	18	23	34	39	25	24	25	16	26	29	25	29	23	24	23	30	17	25	20	6	9	1	1	15	6	19	14	16	17	....	20.0
Grafton §§	Maximum	43	....	55	51	....	63	33	32	32	31	40	39	36	41	35	35	36	33	32	33	29	21	30	38	31	35	43	35	25	30	....	[b]36.4
	Minimum	23	....	20	29	....	30	29	27	26	18	21	25	10	18	26	30	31	29	27	27	17	8	8	18	18	10	15	18	20	8	....	[b]20.9
Grand Forks	Maximum	48	46	54	52	65	36	34	33	32	34	37	37	38	44	45	44	40	31	32	32	23	20	31	35	30	36	44	35	23	26	....	37.2
	Minimum	26	26	32	32	35	30	30	28	27	21	29	21	16	26	29	35	31	31	30	29	12	11	12	11	15	13	18	11	10	12	....	23.0
Granville	Maximum	43	53	57	50	52	40	40	35	25	30	38	42	50	52	56	46	35	37	32	30	28	28	30	37	35	37	40	32	39	30	....	39.2
	Minimum	23	20	20	32	35	25	30	25	5	22	19	22	15	24	26	35	28	22	24	15	10	8	5	6	18	10	12	20	15	20	....	19.7
Hannah	Maximum	37	40	46	48	47	39	34	35	33	32	40	33	34	42	42	38	36	34	31	28	27	17	22	24	29	31	36	31	22	22	....	33.7
	Minimum	22	28	30	29	34	26	25	24	23	14	18	18	6	18	19	28	32	25	24	13	10	− 1	− 2	11	14	16	19	11	5	7	....	18.2
Hansboro	Maximum	42	50	56	40	56	49	42	35	33	33	46	45	35	40	42	34	35	35	30	30	28	17	30	37	27	34	40	35	25	23	....	36.8
	Minimum	22	15	26	32	37	24	20	24	12	3	16	24	9	20	24	28	28	24	20	23	13	2	0	10	13	12	23	4	4	5	....	17.2
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard	Maximum	54	55	56	56	47	27	28	32	37	38	40	38	59	42	52	40	32	40	36	24	22	13	12	20	20	32	34	32	35	38	....	35.7
	Minimum	21	24	20	42	21	0	13	24	10	14	26	26	21	24	24	22	17	14	12	14	11	− 1	− 2	− 1	− 3	7	14	12	11	21	....	15.3
Jamestown §§	Maximum	51	52	59	58	62	54	46	43	36	34	53	43	39	40	46	38	39	38	32	45	31	26	30	32	33	34	42	44	38	38	....	42.2
	Minimum	23	22	31	32	27	33	27	26	18	2	20	30	13	20	22	31	33	26	27	27	19	10	7	13	20	15	16	18	14	16	....	21.1
Lakota	Maximum	35	49	55	47	62	51	31	31	28	12	38	28	38	38	43	40	40	53	....	30	25	24	25	29	28	30	40	36	25	22	....	35.6
	Minimum	25	18	27	32	40	27	27	24	10	5	28	14	8	16	20	33	31	....	30	26	24	8	7	11	10	11	17	16	3	3	....	19.0
Lamoine	Maximum	48	48	55	48	55	42	28	28	31	34	32	35	43	50	52	44	39	37	35	28	26	17	26	22	25	30	40	31	34	32	....	36.5
	Minimum	17	17	25	24	37	24	22	23	8	8	18	23	11	22	21	29	29	17	16	16	14	4	0	2	15	5	14	11	10	12	....	16.5
Langdon	Maximum	42	50	51	39	56	48	31	31	30	31	38	32	36	43	44	38	34	32	30	25	12	23	25	30	25	30	37	35	26	23	....	34.2
	Minimum	22	21	29	32	34	26	24	24	20	13	25	15	11	20	25	30	25	25	25	12	4	3	2	12	15	10	27	11	6	2	....	18.3
Larimore §§	Maximum	42	46	54	56	61	54	42	32	38	31	39	37	39	46	39	44	39	35	34	40	35	30	30	34	31	35	48	32	32	26	....	39.2
	Minimum	25	27	26	31	45	30	28	25	26	16	24	26	25	29	24	32	32	28	28	27	15	10	26	17	22	14	14	18	10	9	....	23.6
Lisbon §§	Maximum	51	54	50	43	46	42	40	37	40	63	41	41	36	34	34	36	38	40	36	38	36	39	39	34	28	36	38	43	38	33	....	40.1
	Minimum	32	29	30	20	26	24	26	23	15	12	12	15	13	16	15	12	13	16	14	13	10	14	12	10	6	15	13	12	16	16	....	16.7
McHenry	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
McKinney	Maximum	49	50	60	54	52	35	32	36	35	40	42	38	42	50	50	39	40	38	34	30	30	20	28	31	35	39	40	36	32	30	....	39.0
	Minimum	20	20	24	26	45	20	15	25	12	15	32	25	28	26	20	22	30	16	10	24	18	0	5	6	20	11	9	15	9	12	....	18.7
Maddock	Maximum	43	49	53	46	57	57	30	[a]31	32	36	39	36	37	39	40	35	34	33	30	29	29	17	24	28	27	31	36	34	28	28	....	35.6
	Minimum	23	18	26	32	43	28	25	25	10	1	17	24	5	15	15	30	32	24	24	24	16	6	2	8	20	10	15	13	5	9	....	18.2
Marmarth	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Minot §§	Maximum	47	51	57	52	51	40	33	34	34	42	44	42	53	59	58	46	37	39	37	39	29	25	27	30	35	35	42	33	33	36	....	40.7
	Minimum	11	25	20	27	34	23	20	22	9	11	29	23	14	22	19	21	27	14	10	18	12	− 1	1	5	10	9	15	13	10	11	....	16.1
Mott	Maximum	60	57	44	54	40	38	30	36	41	52	50	43	38	43	46	40	35	33	36	29	26	24	24	25	26	31	34	31	30	34	....	37.7
	Minimum	29	31	33	37	33	27	17	21	11	30	33	27	19	25	25	23	18	13	16	22	19	12	− 9	− 6	0	17	20	6	13	17	....	19.3
Napoleon §§	Maximum	34	58	59	56	58	40	32	31	40	41	45	45	46	55	55	40	36	49	38	39	42	18	20	31	26	34	42	40	35	35	....	40.7
	Minimum	22	40	28	36	38	27	20	24	8	20	24	22	16	20	20	24	30	19	18	17	13	6	5	− 1	6	7	8	10	9	19	....	18.5
New England	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
New Salem	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Orange	Maximum	60	53	56	64	55	39	28	33	42	55	54	51	58	59	58	56	44	45	50	30	25	18	23	32	33	41	43	27	29	48	....	44.0
	Minimum	9	28	22	35	36	36	17	22	18	21	30	23	24	18	16	19	27	9	7	21	11	6	−10	−13	9	5	12	13	17	19	....	16.9
Park River	Maximum	43	46	55	52	63	33	33	33	29	33	42	34	39	46	35	39	35	....	....	33	31	33	30	34	41	35	29	26	....	....	....	[b]37.3
	Minimum	24	21	29	29	33	32	29	28	28	18	20	27	15	18	23	24	34	30	....	28	22	5	12	19	22	15	14	20	10	7	....	[a]21.9
Pembina §§	Maximum	46	38	42	51	54	50	42	39	42	44	39	44	36	32	28	32	28	31	38	42	48	51	48	46	42	48	39	32	36	38	....	40.7
	Minimum	22	20	17	19	21	24	22	18	16	18	16	14	18	12	10	12	10	8	12	14	16	20	22	18	14	12	10	8	6	10	....	15.3
Steele	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	Maximum	39	57	53	48	48	44	36	32	32	38	40	37	39	40	40	38	36	33	29	29	29	19	27	33	30	29	39	34	29	30	....	36.2
	Minimum	21	18	21	36	30	14	21	24	6	0	20	24	10	21	20	26	30	21	18	22	17	5	0	0	22	10	17	17	15	10	....	17.2
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Wahpeton §§	Maximum	45	50	57	52	65	69	40	38	37	36	41	50	48	49	49	54	50	35	35	34	30	34	20	31	34	48	36	38	41	35	....	.....
	Minimum	22	21	31	31	42	36	30	29	20	15	27	30	18	20	30	44	35	24	29	30	20	16	6	10	19	18	15	17	11	12	....	.....
Washburn	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Westhope	Maximum	46	50	53	50	46	49	30	35	35	35	38	39	42	42	45	34	39	39	39	29	28	22	24	28	32	30	33	30	29	24	....	36.5
	Minimum	20	24	21	34	30	24	21	20	7	9	20	19	18	19	19	30	19	16	21	19	19	1	0	5	6	8	10	8	7	5	....	16.0
Williston	Maximum	51	53	57	59	44	29	30	33	32	45	45	41	48	51	50	43	37	43	36	26	25	16	17	22	24	31	38	32	34	45	....	37.9
	Minimum	28	24	23	36	29	22	22	26	18	25	32	25	26	29	26	26	24	18	24	20	15	4	2	2	6	9	17	16	19	26	....	20.6
Willow City	Maximum	46	52	52	49	56	40	33	35	31	36	41	36	41	39	43	36	34	32	27	30	23	20	27	31	28	32	35	28	26	12	....	35.0
	Minimum	17	18	20	35	42	28	23	25	4	− 1	17	23	4	13	12	24	32	23	18	23	15	0	− 1	5	20	6	6	7	3	10	....	15.7
Zap	Maximum	53	53	56	62	48	40	32	34	42	53	52	40	57	60	57	39	37	42	45	28	24	22	28	35	32	41	41	36	35	40	....	42.1
	Minimum	21	18	20	35	36	25	24	25	12	23	29	20	19	23	20	19	29	14	10	20	14	8	− 6	− 5	11	5	15	9	19	16	....	17.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.

Departure of the Mean Temperature from the Normal, November, 1918.



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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

DECEMBER, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 31, 1919.

Departure of the Mean Temperature from the Normal, December, 1918.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., DECEMBER, 1918. No. 12.

GENERAL SUMMARY.

The month as a whole was favorable for outdoor pursuits. Although the total snowfall was considerably above the normal generally, most of the heavy amounts occurred on the 29th and 30th, although some heavy falls occurred in the southeastern portion on the 21st. The temperature was above normal almost continuously, the only exceptions being during a moderate cold wave from the 22d to the 24th, inclusive, and a severe one on the 30th and 31st. There was a considerable excess of cloudiness, and the humidity was above normal. Threshing continued during the early part of the month, where it had been delayed by sickness and the shortage of labor. Stock benefited by the mild weather and the light snow cover, especially in the western part of the State, which permitted grazing during practically the entire month.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.08 inches. The highest was 30.70 inches at Moorhead, Minn., on the 23d; the lowest was 29.50 inches at Devils Lake and Williston on the 2d.

TEMPERATURE.

The mean temperature for the State was 18.5°, or 5.5° above the normal, and 17.8° higher than the mean for December, 1917. The highest mean reported was 26.2° at Marmarth, Slope County; the lowest was 11.0° at Langdon, Cavalier County. The highest temperature reported was 65° at Marmarth, Slope County, on the 4th and 5th, and at Steele, Kidder County, on the 7th; the lowest was -41° at Minot, Ward County, on the 31st. The greatest monthly range of temperature was 99° at Steele, Kidder County; the least was 65° at Larimore, Grand Forks County. The greatest daily range was 51° at Minot, Ward County, on the 31st. The geographical distribution of temperature was fairly uniform, all stations showing departures decidedly above normal. The greatest departures occurred during the first decade; the last decade was only slightly above normal. Generally the highest temperature occurred on the 6th or 7th, and the lowest on the 31st.

HUMIDITY.

The average relative humidity, as determined from the reports of six recording stations, was 88 per cent, the average at 7 a. m. being 89 per cent, and at 7 p. m. 86 per cent.

PRECIPITATION.

The average precipitation for the State was 0.88 inch, or 0.34 inch above the normal, and 0.28 inch more than the average for December, 1917. The greatest monthly amount reported was 2.28 inches at Grand Forks, Grand Forks County; the least was 0.05 inch at Lisbon, Ransom County. The greatest amount recorded in any twenty-four consecutive hours was 1.51 inches at Howard, Williams County, on the 29th. The average number of days with 0.01 inch or more of precipitation was 5. Practically all of the precipitation occurred in the form of snow. Most of the light amounts fell on the 1st, 9th, 10th, 21st and 26th, and the heavier amounts on the 29th and 30th.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 9.5 miles. The greatest wind movement was 10,264 miles at Ellendale, an average of 13.8 miles per hour; the least was 5,607 miles at Williston, an average of 7.5 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 50 miles per hour from the northwest at Ellendale on the 22d.

SUNSHINE AND CLOUDINESS.

There was a considerable deficiency of sunshine; the average number of clear days was 9, partly cloudy days 8, and cloudy days 14.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.58	+0.04	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.02	−0.52	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.

Climatological Data for December, 1918.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	22	18.8	+6.2	58	7	−29	31	33	1.21	+0.77	0.30	.....	8	9	10	12	n.	E. R. Carley.
Ashley	McIntosh	2,001	21	20.0[a]	+6.0	55[a]	7	−20[a]	24	34[a]	0.90	+0.45	0.50	9.0	3	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	12	23.0	+5.7	59	6	−31	31	33	0.67	+0.18	0.28	2.2	5	20	3	8	nw.	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	24	23.9	+6.9	58	6	−38	31	47	0.39	0.00	0.29	5.2	3	10	7	14	w.	C. L. Hall.
Bierman	Slope	.....	2	25.2	.....	57	4	−21	31	33	1.07	.....	0.60	10.8	6	9	2	20	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	44	21.6	+6.6	57	6	−29	31	34	1.02	+0.40	0.49	16.0	8	4	9	18	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	26	13.7	+6.2	41	7	−34	31	42	0.47	−0.08	0.13	.....	8	10	7	14	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	6	16.3	.....	48	6	−37	31	35	0.74	.....	0.46	.....	3	16	0	15	.....	G. H. Phelps.
Bowman	Bowman	.....	4	23.8	.....	61	4	−23	31	44	0.21	.....	0.12	4.0	3	8	8	15	nw.	M. W. Madsen.
Buford	Williams	1,944	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	17	.....	.....	.....	.....	.....	.....	.....	0.32	−0.03	0.13	.....	4	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	6	23.6	.....	55	6†	−24	31	44	1.25	.....	0.60	12.5	5	14	5	12	nw.	J. W. Evens.
Colgate	Steele	1,177	4	14.8	.....	50	7	−28	31	40	0.50	.....	0.20	5.0	4	12	4	15	ne.	James McCann.
Cooperstown	Griggs	1,428	8	.....	.....	.....	.....	.....	.....	.....	1.70	+1.35	0.70	17.0	5	10	14	7	nw.	S. Friswold.
Crosby	Divide	1,954	11	19.4	+6.0	43	7	−34	31	24	0.70	+0.18	0.20	7.0	5	5	12	14	sw.	John Jensen.
Devils Lake	Ramsey	1,478	14	14.9	+6.9	44	7	−27	31	30	0.67	+0.28	0.34	11.4	9	7	5	19	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	26	23.2	+4.8	56	6	−30	31	37	0.30	−0.15	0.17	3.5	3	9	8	14	sw.	J. C. Thysell.
Donnybrook	Ward	1,760	19	18.9[c]	+4.6	55[c]	7	−33[c]	31	37[c]	0.95	+0.41	0.75	6.8	3	.....	.....	.....	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	3	.....	.....	.....	.....	.....	.....	.....	0.43	.....	0.40	5.5	3	9	5	17	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Lamont.
Eckman	Bottineau	.....	13	16.9[a]	+7.3	50[a]	6	−39[a]	31	34[a]	0.73	+0.11	0.33	10.0	5	10	9	12	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	17	20.3	+3.8	57	7	−17	24†	37	0.38	−0.05	0.14	.....	5	1	8	22	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	20	18.9	.....	58	7	−25	31	38	0.67	.....	0.29	6.7	7	3	7	21	nw.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	6	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.61	.....	5	5	17	9	nw.	N. W. Solenberger.
Epping	Williams	2,224	10	.....	.....	.....	.....	.....	.....	.....	0.77	.....	0.50	9.0	4	11	7	13	se.	M. E. Uggen.
Fessenden	Wells	1,610	6	16.6	.....	50	7	−34	31	34	1.35	.....	0.50	13.5	8	11	8	12	nw.	G. T. Seymour.
Forman	Sargent	1,249	26	21.4[b]	+6.4	57	7	−18[c]	24	39[c]	1.75	+1.26	0.50	17.5	5	6	19	6	nw.	R. P. Williams.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.30	6.5	3	10	9	12	w.	Verne King.
Fullerton	Dickey	1,439	20	19.6	+5.4	58	7	−19	24	35	1.30	+0.44	0.45	13.0	4	7	13	11	nw.	F. O. Alin.
Garrison	McLean	1,901	23	21.3[a]	+6.5	55[a]	6	−32[a]	31	37	0.32	−0.17	0.25	3.7	3	7	8	16	nw.	G. L. Robinson.
Grafton	Walsh	827	26	14.6	+6.4	44	7	−25	31	38	0.84	+0.34	0.32	11.2	6	10	12	9	n.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	26	13.2	+1.9	44	7	−30	31	37	2.29	+1.79	0.60	27.6	8	7	3	21	w.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	6	19.8[a]	.....	56[a]	7	−28[a]	31	47[a]	0.80	.....	0.40	8.0	2	.....	.....	.....	s.	G. H. Leick.
Granville	McHenry	1,504	11	20.3[a]	+7.9	52[a]	7	−36[a]	31	35[a]	1.04	+0.58	.....	16.0	4	.....	.....	.....	ne.	W. A. Christianson.
Hannah	Cavalier	1,568	13	14.0[a]	+6.6	36[a]	7	−36[a]	30	32[a]	1.10	+0.32	0.40	11.0	4	.....	.....	.....	nw.	J. Moffatt.
Hansboro	Towner	1,597	10	12.2[b]	.....	44[b]	9	−35[a]	31	50[b]	0.62	.....	0.28	7.2	3	.....	.....	.....	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	10	24.6	+7.9	62	4	−22	24	45	0.30	−0.12	0.30	3.0	1	15	3	13	nw.	U. J. Downey.
Hillsboro	Traill	901	12	15.6	+3.0	48	7	−22	31	32	1.15	+0.19	0.50	11.5	7	6	14	11	nw.	F. E. Mayall.
Howard	Williams	2,275	11	19.0	+5.8	51	7	−36	31	31	1.63	+0.77	1.51	16.4	2	7	9	15	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	26	21.0	+6.3	59	8	−21	31	38	1.55	+0.81	0.40	15.0	8	11	0	20	nw.	S. Calvelage.
Lakota	Nelson	1,579	17	.....	.....	.....	.....	−29[c]	31	33[c]	0.67	−0.16	0.32	14.5	4	.....	.....	.....	.....	C. R. Pettes.
Lamoine	Kidder	1,936	10	16.8[b]	+5.6	52[b]	7	−31[b]	31	34[c]	1.10	+0.60	0.40	11.0	7	.....	.....	.....	w.	E. V. Virgin.
Langdon	Cavalier	1,615	22	11.0	+2.3	39	7	−34	31	35	1.05	−0.11	0.30	10.5	5	10	8	13	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	23	15.4	+3.9	38	4	−25	31	33	1.13	+0.74	1.25	11.2	7	6	11	14	n.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	14	17.7	+3.6	46	12	−18	24†	44	0.05	−0.46	0.05	0.5	1	0	9	22	nw.	W. S. Adams.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	.....	.....	1.60	.....	0.80	16.0	4	.....	.....	.....	nw.	Edw. Tapley.
McHenry	Foster	1,509	8	14.9	.....	37	2	−27	31	50	1.90	.....	0.60	19.0	6	23	4	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	24	16.6[a]	+5.3	50[a]	6†	−33[a]	29†	41[a]	1.15	+0.72	0.80	11.5	4	.....	.....	.....	nw.	N. P. Swenson.
McLeod	Ransom	1,075	6	19.4	.....	53	19	−18	31	35	0.90	.....	0.60	9.0	4	7	8	16	ne.	R. D. Markland.
Maddock	Benson	1,604	3	17.0	.....	44	7	−33	31	50	0.36	.....	0.36	.....	1	.....	.....	.....	sw.	F. P. Cowing.
Mandan	Morton	1,644	4	21.2	.....	58	6	−17	31	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	15	17.8	+5.7	45	7	−33	31	28	0.92	+0.14	0.24	11.2	10	9	8	14	sw.	P. B. Anderson.
Marmarth	Slope	.....	9	26.2[a]	.....	65[a]	4†	−23[a]	31	41[a]	0.71	.....	0.34	8.3	6	11	10	10	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grace Williamson.
Mayville	Traill	975	22	17.2	+3.3	49	7	−22	31	30	0.85	+0.38	0.35	.....	7	13	5	13	.....	W. C. Gould.
Melville	Foster	1,590	20	17.8[g]	+5.5	42[g]	7	−34[c]	31	35[g]	1.80	+1.45	0.90	18.0	4	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	6	.....	.....	.....	.....	.....	.....	.....	0.77	.....	0.25	7.2	5	6	4	21	n.	Hj. Edman.
Minot	Ward	1,557	22	18.5	+4.8	53	7	−41	31	51	1.50	+1.13	1.20	15.0	4	8	8	15	nw.	W. I. Faris.
Minto	Walsh	820	25	14.8	+3.9	46	7	−23	31	32	1.03	+0.57	0.40	.....	5	11	9	11	ne.	C. M. Evans.
Mott	Hettinger	2,424	11	18.6	+3.2	48	7†	−24	25	42	0.33	−0.24	0.11	3.5	5	9	10	12	w.	O. H. Opland.
Napoleon	Logan	1,955	26	18.7	+5.7	55	7	−23	31	35	0.45	−0.04	0.25	5.0	3	11	4	16	nw.	C. J. Hoof.
New England	Hettinger	2,400	24	19.3[i]	+0.8	48[i]	8	−22[i]	26†	49[c]	0.12	−0.30	0.10	1.2	2	.....	.....	.....	.....	R. S. Lowis.
New Salem	Morton	2,165	13	22.0	+6.1	52	4	−25	31	41	1.57	+1.10	1.20	17.0	6	6	10	15	nw.	J. Christiansen.
Orange †‡	Adams	2,586	9	23.8	.....	57	7	−26	24	43	1.00	.....	0.50	10.0	3	6	10	15	nw.	T. F. Young.
Park River	Walsh	998	14	15.7[b]	+4.6	44[b]	8	−24[b]	31	32[b]	0.48	−0.09	0.25	7.6	4	.....	.....	.....	nw.	J. P. George.
Parshall	Mountrail	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	44	12.4	+5.8	40	9	32	31	40	0.15	−0.70	0.15	1.5	1	3	16	12	sw.	C. W. Shumaker.
Power	Richland	1,020	25	.....	.....	.....	.....	.....	.....	.....	0.85	+0.34	0.20	7.5	7	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	3	.....	.....	.....	.....	.....	.....	.....	1.30	.....	0.60	13.0	5	5	18	8	w.	C. Frank.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.20	6.3	4	6	14	11	nw.	H. F. Solenberger.
Steele	Kidder	1,857	21	20.5	+6.1	65	7	−34	31	35	1.42	+1.04	0.40	13.5	8	14	10	7	.....	H. S. Wood.
Taylor	Stark	2,493	2	21.8	.....	42	4†	−25	31	36	0.42	.....	0.35	.....	2	15	6	10	nw.	H. Leutz.
Towner	McHenry	1,482	16	17.4	+6.6	47	7	−38	31	29	1.05	+0.70	0.70	10.5	3	9	7	15	w.	B. Bagley.
Valley City	Barnes	1,245	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bruns.
Wahpeton	Richland	962	24	20.0	+4.5	57	9	−17	31	38	0.20	−0.23	0.20	4.0	1	13	0	18	nw.	F. E. Smith.
Walhalla	Pembina	966	11	14.8	+5.3	45	7	−26	31	43	1.50	+0.35	0.60	15.0	5	20	6	5	n.	Ivan Lee.
Washburn	McLean	1,734	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	12	14.2	+4.2	46	7	−35	31	37	0.32	−0.02	0.08	.....	6	4	19	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	39	22.4	+8.8	54	6	−30	31	32	1.00	+0.34	0.74	6.6	6	7	5	19	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	26	12.1	+2.4	44	7	−37	31	44	0.60	+0.18	0.20	6.0	4	7	6	18	nw.	M. A. Ostby.
Zap	Mercer	1,800	5	20.2	.....	53	7	−34	31	38	0.50	.....	0.25	7.8	6	8	6	17	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	37	18.1	+7.4	53	7	−20	31	32	1.30	+0.56	0.40	13.0	10	9	5	17	n.	U. S. Weather Bureau.
Averages	.....	.....	.....	18.5	+5.5	65	4†	−41	31	51	0.88	+0.34	1.51	9.9	5	9	8	14	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.

Daily Precipitation for December, 1918.

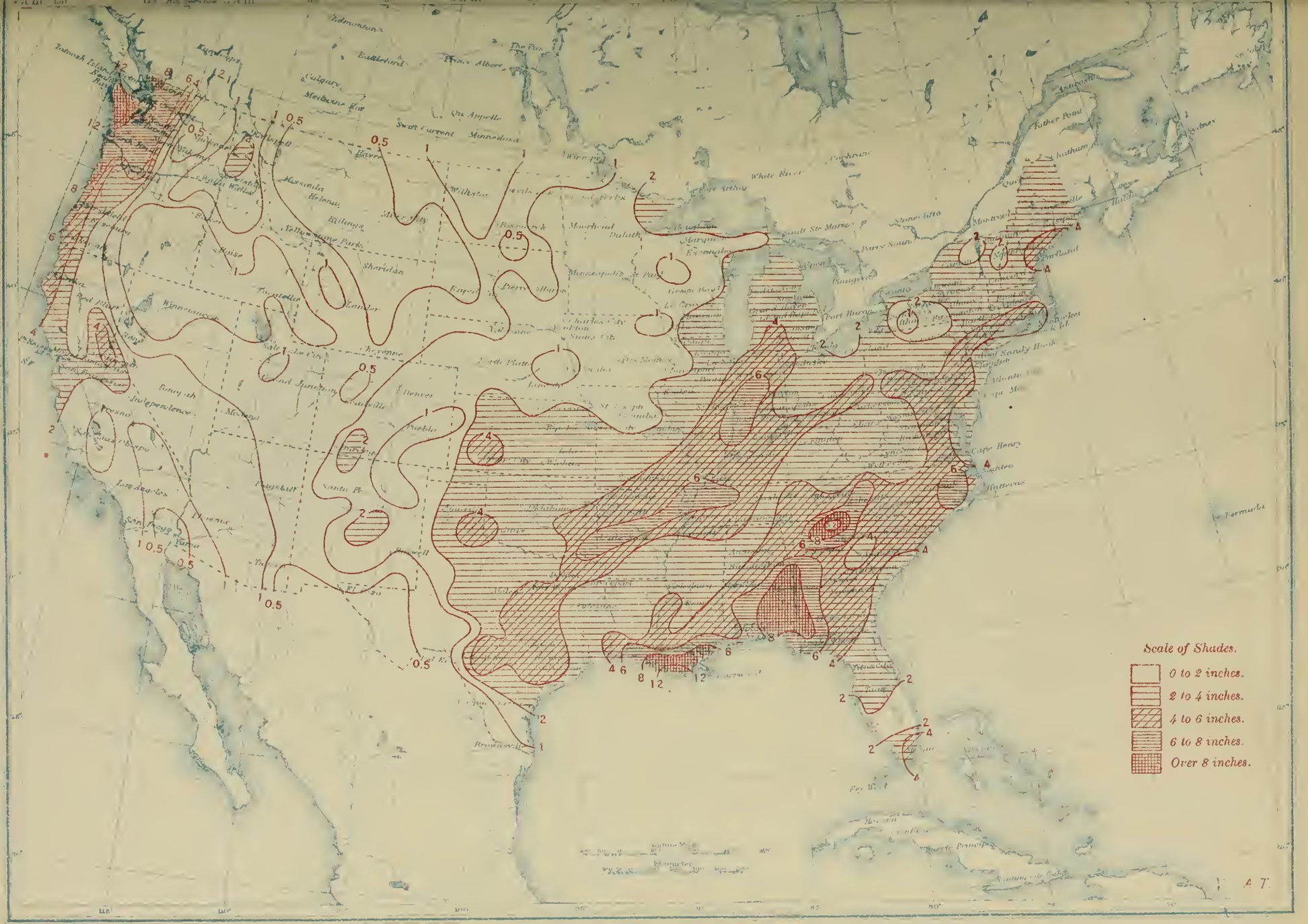
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia	Red	.10								T.	.11					.20	.21			T.		.30			.07	.01				T.	.21	T.	1.21
Ashley	Missouri								T.	.20												.50					.20						0.90
Beach	Lit. Missouri										.28			T.									.06			.16				.02	.15		0.67
Berthold Agency	Missouri	T.									.08											T.					.02				.29		0.39
Bierman	Lit. Missouri	.02									.20											T.	T.	.05		.10				T.	.60	.10	1.07
Bismarck ***	Missouri	T.								T.	.05	T.			T.	T.	.02					.40	.03	T.		T.	.02	.01		.05	.44		1.02
Bottineau	Mouse	.13									.12	T.			.01	.04	T.									T.	.01	.05	.01		.10		0.47
Bowbells ‖ ¶	Mouse											.23				.05														.46			0.74
Bowman	Grand	T.			T.						.12	.03											T.				T.				.06		0.21
Buford	Missouri																																
Cando	Sheyenne	.10													.06								.03									.13	0.32
Carson	Heart										.20	.05										.30					.10				.60		1.25
Colgate	Sheyenne									10	.20				.10												.10						0.50
Cooperstown	Sheyenne	T.								.30				.10			T.					.30						T.		.30	.70		1.70
Crosby	Mouse										.10	.10			.10															.20	.20		0.70
Devils Lake ***	Sheyenne	.05				T.				.01	.02	T.			.10	T.			T.							.02	.08	.04		.09	.26		0.67
Dickinson	Heart										.10	.03													T.	T.				T.	.17		0.30
Donnybrook	Mouse										.20												T.	T.	T.					*	.75		0.95
Dunn Center	Knife									.02		T.										T.	T.	T.		T.	.01				.40		0.43
Dunseith	Mouse																																
Eckman	Mouse	T.									.10	T.			.10	.10							T.			T.	T.	T.		.10	.33		0.73
Edgeley	James					T.				.01	.14											.10					.01				.12		0.38
Ellendale ***	James	T.								.11	.14						.01	T.	T.	T.	.03	.26				T.	.01	T.			.11		0.67
Energy	Missouri	T.							T.	T.	.02	T.			T.	T.	T.	T.				T.	.01	T.	.01	T.	.02	T.		T.	.61		0.67
Epping	Missouri										.20													.03			.04			.50			0.77
Fessenden	James	.10								T.	.05				.05	T.	.10					.05				T.	.30			.20	.50		1.35
Forman	Sheyenne	.05								.40												.40					.40	T.			.50		1.75
Fryburg	Lit. Missouri										.18												.02								.30		0.50
Fullerton	James	T.								T.	.45						T.		T.			.25	.15								.45		1.30
Garrison	Missouri	T.								T.	.05						T.						T.	T.	T.	T.	T.	T.		.02	.25		0.32
Grafton	Red	.13	.01								.25					.07											.03				.32		0.84
Grand Forks ***	Red	.25	.10			T.				.23	T.	T.			.16	T.			T.		T.	.60				T.	.40	.05		T.	.50		2.29
Grand Rapids	James	T.								T.	.40				T.							.40					T.			T.			0.80
Granville	Mouse										T.					T.						T.				*	*		*	1.04		1.04
Hannah	Pembina	.30	T.								.10				.30												T.	T.		.40			1.10
Hansboro	Red	.22									.28				.12															T.			0.62
Hettinger	Grand										T.													.30									0.30
Hillsboro	Red	.20		T.						.05	.20				.05							.10						.05			.50		1.15
Howard	Missouri										.12				T.								T.							1.51			1.63
Jamestown	James	.05									.35				.10	.15						.40					.10			.10	.30		1.55
Lakota	Sheyenne														.15							.04					.16				.32		0.67
Lamoine	Missouri	T.									.30					*	.20									*	*	.20			.40		1.10
Langdon	Pembina	.30								.20	.15				.20													.20					1.05
Larimore	Red	.25								.05	.20						.10					.15					.20					.18	1.13
Linton	Missouri																																
Lisbon	Sheyenne										T.												T.	.05								T.	0.05
McClusky	Missouri										.20						.30										.30				.80		1.60
McHenry	James																.20	.10		.20		.60								.40	.40		1.90
McKinney	Mouse											.15			.10										T.	.10			.80				1.15
McLeod	Sheyenne	.05								.15	.10				T.	T.						T.									.60		0.90
Maddock	Sheyenne																														.36		0.36
Mandan ‖	Missouri																																
Manfred	Sheyenne	.04								T.	.10				.04	.04	.04	T.				T.				.04	.18	.04		.16	.24		0.92
Marmarth	Lit. Missouri										.20											.03	.03				.11			*	.34		0.71
Marstonmoor	James																																
Mayville	Red	.05	.05					.15			.15													.05			.35			.05			0.85
Melville	James									T.					.10		T.					.80					T.			*	.90		1.80
Milnor	Red	T.								.15	.10		T.	T.	T.		T.		T.			T.	.25	T.			.05			T.	.22	T.	0.77
Minot	Mouse	T.									.20				*	.10								T.		T.	T.		T.	1.20			1.50
Minto	Red	.22		.01							.35			T.													.05				.40		1.03
Mott	Cannon Ball										.08											.04				.03				.07		.11	0.33
Napoleon	Missouri	T.									.10											.25					.10						0.45
New England ‖ ¶	Cannon Ball												.02																		.10		0.12
New Salem	Heart										.24											.05	.03		T.	.02	.03				1.20		1.57
Orange	Cannon Ball																					.50					.20				.30		1.00
Park River	Red	.12									.25																.08				.03		0.48
Parshall	Missouri																																
Pembina ‖ ¶	Red				.15																												0.15
Power	Missouri	.15							.10						.20	.05						.20						.05			T.		0.85
Powers Lake	Sheyenne								.25														T.	T.	.10	.15				.20	.60	T.	1.30
Sanish	Missouri																																
Selfridge	Missouri									.10													.20				.10				.07		0.47
Steele	Missouri		T.							.07		T.		T.	T.						.10	.40	.10		.15		.25		.05		.30		1.42
Taylor	Heart										.07												T.			T.	T.			T.	.35		0.42
Towner	Mouse	.05														.30										T.					.70		1.05
Valley City	Sheyenne																																
Wahpeton	Red										.20																						0.20
Walhalla	Pembina	.30													.20							.20					.60	.20					1.50
Washburn	Missouri																																
Westhope	Mouse	T.	.04								.08		.06			.08											.04	.02			T.			0.32
Williston ***	Missouri									.07	.11	T.			T.	T.							.01	.01	T.	T.	T.	T.		.50	.30		1.00
Willow City	Mouse	.20									.10	T.			.10	T.											T.	T.		T.	.20		0.60
Zap	Knife										.20					.01	T.						.01			.01	.02				.25		0.50
Moorhead, Minn ***	Red	.10	.01	T.						.24	.06				.17		.12					.09					.11			.04	.36		1.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ¶ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1918.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	36	28	39	35	35	34	58	45	44	46	32	42	45	37	19	19	19	22	32	32	24	21	9	28	28	32	31	30	20	22	4	30.6
	Minimum	12	10	17	13	10	3	11	19	21	21	14	−2	2	7	5	2	7	14	19	22	21	−8	−8	15	12	0	2	−4	4	29		6.9
Ashley	Maximum	38	46	49	47	42	42	55	38	32	30	31	29	26	....	26	23	26	27	31	29	21	20	5	4	26	26	21	33	19	15	−7	[a]28.3
	Minimum	21	20	26	27	22	15	32	26	21	9	−3	7	12	....	12	13	20	17	20	2	0	−4	−9	−20	−8	17	10	11	1	−7	−19	[a]11.8
Beach	Maximum	40	47	41	40	55	59	52	52	52	40	36	32	38	40	44	30	29	28	32	38	24	20	14	32	9	10	25	36	28	16	−1	33.5
	Minimum	32	30	28	17	23	38	24	21	20	16	3	0	6	16	16	22	10	11	16	13	8	10	2	5	6	4	9	10	16	−1	−31	12.6
Berthold Agency	Maximum	46	49	44	55	57	58	54	50	40	34	31	35	43	37	26	36	24	30	34	39	30	16	12	22	31	30	23	36	27	30	9	35.1
	Minimum	24	17	25	27	25	22	22	13	21	25	20	−5	5	10	15	17	17	23	23	5	9	5	5	−11	2	20	11	22	10	9	−38	12.7
Bismarck	Maximum	42	50	41	32	48	57	57	30	33	34	29	31	42	32	22	24	27	27	35	23	24	12	11	14	30	27	28	35	21	19	−11	31.1
	Minimum	23	22	27	29	22	23	27	16	26	25	4	1	9	13	16	19	21	21	13	6	11	1	2	−8	2	19	10	7	6	−11	−29	12.0
Bottineau	Maximum	23	35	35	29	30	39	41	40	29	27	17	17	30	18	13	9	20	22	28	24	25	18	8	8	27	24	20	20	18	6	−9	26.6
	Minimum	3	11	18	9	9	−3	20	15	23	15	5	−2	0	−1	5	11	15	16	21	1	3	−1	−12	−7	0	16	−2	4	2	−12	−34	4.6
Bowbells §§	Maximum	34	44	38	40	40	48	46	44	32	22	20	22	32	12	17	23	24	27	26	26	15	10	10	25	27	19	20	21	15	9	−2	25.4
	Minimum	6	12	20	21	16	18	22	24	15	20	11	−8	9	5	7	9	9	9	19	6	0	−1	−5	−10	−5	17	9	8	9	−13	−37	7.2
Carson	Maximum	42	50	40	45	50	55	55	50	40	35	35	35	40	44	32	24	25	25	37	34	25	20	15	20	17	25	20	35	20	20	20	33.4
	Minimum	25	27	25	22	20	20	29	25	20	20	16	5	5	20	16	16	16	20	17	15	10	1	−5	−15	1	16	10	10	13	−12	−24	13.7
Crosby	Maximum	37	40	37	39	36	24	43	42	39	32	27	28	34	26	23	19	20	29	26	29	25	10	14	19	29	20	27	27	16	7	−17	26.0
	Minimum	18	20	25	26	26	4	31	22	28	26	12	5	10	12	12	16	15	19	14	14	10	2	6	8	12	16	16	16	6	−17	−34	12.9
Devils Lake	Maximum	21	37	31	32	30	37	44	39	24	31	20	30	33	15	10	18	21	25	30	28	20	10	6	15	27	22	22	22	19	2	−16	22.7
	Minimum	8	7	18	11	11	10	28	21	20	17	10	5	8	5	2	10	17	19	14	6	10	−8	−11	−11	11	11	10	2	2	−17	−27	7.1
Dickinson	Maximum	44	47	46	54	48	56	53	51	37	32	29	32	40	45	31	26	27	27	35	39	23	18	16	12	27	26	26	38	23	16	−5	32.9
	Minimum	32	20	19	20	25	24	31	17	25	27	12	−4	5	18	19	20	16	23	21	10	18	6	0	−8	4	19	15	14	16	−12	−30	13.6
Donnybrook	Maximum	36	45	41	....	42	53	55	....	33	35	25	30	35	26	16	21	37	35	35	33	22	14	13	21	31	....	25	30	25	9	−11	[c]29.0
	Minimum	12	12	22	....	20	21	18	....	15	22	12	5	12	9	12	12	13	17	15	17	7	2	−2	−9	20	....	14	17	4	−11	−33	[c] 9.8
Dunseith	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Edgeley	Maximum	39	43	41	46	45	45	57	46	34	33	34	27	35	30	24	20	25	27	30	26	24	22	9	12	28	29	21	31	21	20	0	29.8
	Minimum	16	18	27	24	21	12	25	23	21	24	9	5	11	15	9	11	17	18	23	1	18	0	−9	−17	−4	17	10	11	2	−7	−17	10.8
Ellendale	Maximum	34	44	37	46	47	42	58	47	30	33	28	24	34	23	16	20	24	29	30	25	25	15	0	8	28	26	20	32	20	22	−8	27.7
	Minimum	20	17	26	28	15	11	23	23	26	24	8	−3	3	16	12	13	19	20	21	15	15	−5	−14	−18	−10	19	11	8	2	−8	−25	10.1
Fessenden	Maximum	32	42	38	35	35	44	50	39	32	34	27	29	38	25	15	20	21	26	29	31	22	18	8	14	28	27	18	27	18	17	−11	26.7
	Minimum	8	9	21	16	10	12	27	19	17	20	8	0	4	6	6	9	15	17	16	3	9	1	−10	−17	6	15	5	5	−3	−14	−34	6.6
Forman	Maximum	35	37	40	44	36	40	57	47	38	34	32	39	32	29	22	22	24	28	32	26	27	23	5	4	15	24	22	27	24	24	16	29.2
	Minimum	16	17	35	18	23	9	28	20	26	27	−7	1	4	7	12	11	18	20	24	15	21	4	−7	−18	3	14	....	....	....	....	....	[c]13.5
Fullerton	Maximum	37	42	42	45	43	40	58	46	30	34	33	24	33	26	16	20	25	29	31	26	26	18	5	8	26	27	27	29	16	21	−4	28.4
	Minimum	17	19	23	24	10	10	23	25	27	25	9	−4	8	15	11	12	19	19	23	19	18	5	−11	−19	−9	12	15	14	1	−4	−18	10.9
Garrison	Maximum	39	47	42	45	36	55	53	45	40	39	26	28	42	37	30	21	21	....	33	28	25	20	22	30	29	29	22	23	26	17	−11	[a]31.0
	Minimum	18	18	22	25	21	19	28	16	21	24	16	−4	13	8	16	17	18	....	21	5	10	3	1	−17	10	19	16	16	11	−11	−32	[a]11.6
Grafton	Maximum	16	19	31	30	30	28	44	40	30	29	25	19	28	17	11	17	20	24	33	32	22	18	4	10	22	20	18	29	21	18	−8	22.5
	Minimum	8	1	16	8	8	−8	13	23	15	20	15	−9	−2	5	−3	−3	13	17	22	2	0	−10	−10	−15	−6	12	7	5	7	10	−25	6.7
Grand Forks	Maximum	20	33	31	30	35	30	44	37	27	29	23	19	24	18	3	17	20	30	33	23	24	9	2	7	23	20	17	23	22	19	−13	21.9
	Minimum	12	6	13	10	−2	−6	18	22	19	21	12	0	5	−2	−10	4	15	19	19	10	9	1	−15	−16	−3	14	8	1	0	−13	−30	4.5
Granville	Maximum	40	48	38	40	32	50	52	45	30	35	30	30	40	22	15	30	....	30	30	37	20	20	15	15	30	25	30	30	25	18	−8	29.7
	Minimum	20	32	32	24	23	20	30	23	15	20	15	0	15	5	10	15	....	20	10	4	8	2	−8	−15	15	15	10	5	5	−8	−36	10.9
Hannah	Maximum	16	31	33	32	25	28	36	34	27	25	22	24	22	20	17	18	19	24	28	21	20	13	9	18	20	22	18	17	4	−6	....	[a]21.2
	Minimum	3	1	19	15	13	−4	19	17	14	10	5	−8	9	5	−9	12	13	15	15	2	1	−5	−20	−10	6	12	8	2	−17	−36	....	[a] 6.9
Hansboro	Maximum	23	23	46	25	28	30	41	....	44	26	23	15	26	17	16	17	19	23	28	25	....	20	18	12	25	23	21	27	21	11	−15	[b]22.3
	Minimum	4	4	4	10	8	2	20	20	10	16	10	−12	2	4	−7	6	13	13	13	2	....	−13	−21	−16	0	12	6	10	−4	−15	−35	[a] 2.2
Hettinger	Maximum	45	52	48	62	61	55	57	53	43	37	30	32	40	49	46	27	28	28	46	38	33	23	15	17	28	27	20	40	32	20	−4	36.2
	Minimum	29	22	24	17	30	22	27	14	24	24	5	−3	7	19	20	19	17	23	16	4	17	8	−1	−22	7	19	11	13	18	−9	−18	13.0
Howard	Maximum	37	44	38	43	38	47	51	49	38	36	30	32	38	21	32	22	21	30	30	30	24	20	21	25	28	27	29	33	11	−18	−10	28.9
	Minimum	21	20	23	25	21	22	30	21	25	26	4	4	16	−1	1	16	12	19	13	8	4	−4	−8	8	13	13	11	9	−18	−35	−36	9.1
Jamestown	Maximum	34	42	44	39	44	45	53	59	43	35	33	27	36	34	18	15	24	28	38	30	30	23	25	15	27	27	25	32	24	21	15	31.8
	Minimum	14	18	29	21	21	9	24	21	24	25	10	−1	6	15	9	10	18	18	24	0	−1	4	−7	−17	−1	18	14	10	4	−6	−21	10.1
Lakota	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	21	23	28	30	28	22	17	9	6	25	20	20	22	18	17	4	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	0	1	4	−1	2	0	−16	−16	2	−3	−1	6	0	−6	−29	.....
Lamoine	Maximum	36	42	41	43	38	48	52	46	38	28	30	26	33	26	18	16	21	....	....	27	27	18	4	4	27	27	21	27	17	17	−9	27.2
	Minimum	10	14	18	20	18	15	25	16	18	18	18	−8	4	−2	7	11	9	−2	....	....	12	−2	−7	−4	−3	9	5	7	0	−12	−31	6.3
Langdon	Maximum	17	26	30	26	24	30	39	36	23	27	23	23	28	23	16	20	20	27	30	24	20	15	9	6	20	22	22	21	13	−2	−15	20.7
	Minimum	2	2	24	4	2	−5	20	15	15	18	−7	−4	−4	−4	−4	7	5	15	20	2	10	−10	−21	−16	−5	7	7	2	−5	−17	−34	1.3
Larimore	Maximum	19	20	35	38	31	23	35	28	28	32	28	30	25	24	25	27	32	25	34	28	30	15	5	8	25	22	19	29	22	15	−7	24.2
	Minimum	9	5	18	8	13	−11	22	23	12	22	15	−3	8	3	8	5	13	17	15	5	5	1	−15	−13	0	14	8	14	12	7	−25	6.5
Lisbon	Maximum	33	40	36	39	42	38	35	36	39	42	40	46	44	40	41	40	39	34	36	30	30	29	30	26	24	25	28	20	21	20	18	33.6
	Minimum	16	12	10	6	12	9	10	12	16	14	12	18	14	16	9	12	10	0	6	−4	−10	−6	−12	−18	−16	−15	−14	−16	−16	−14	−18	1.8
McHenry	Maximum	29	37	31	28	29	25	32	34	31	26	32	33	25	27	23	29	31	25	28	34	28	31	28	32	30	30	29	28	22	20	23	28.7
	Minimum	7	10	9	7	4	3	10	15	6	0	12	10	2	7	−5	3	−3	6	10	8	−6	5	−15	−3	5	−3	−5	−7	−15	−15	−27	1.1
McKinney	Maximum	33	36	32	32	32	50	50	41	38	30	25	31	35	25	14	20	20	28	28	30	23	15	20	32	28	21	29	22	−10	−10	....	[a]25.0
	Minimum	11	15	22	21	18	18	30	15	12	22	14	−10	15	4	10	12	15	18	20	−1	1	−1	−10	15	18	12	12	−12	−33	−33	....	[a] 8.3
Maddock	Maximum	24	39	39	31	32	40	44	41	34	32	30	28	32	31	15	20	20	26	29	26	22	20	5	10	27	28	23	23	18	18	17	26.6
	Minimum	8	8	23	14	16	12	26	18	17	21	11	1	9	4	5	10	16	18	22	1	5	0	−11	−10	3	15	7	10	0	−12	−33	7.5
Marmarth	Maximum	52	49	50	65	65	64	64	64	59	57	48	33	42	48	42	31	24	26	....	40	24	16	16	22	26	23	30	39	31	15	0	[a]38.8
	Minimum	21	34	30	32	26	24	27	23	28	23	7	5	9	22	24	18	14	20	....	10	16	8	−4	−8	9	3	1	15	15	−18	−23	[a]13.7
Minot	Maximum	36	46	45	46	43	48	53	42	43	32	27	23	40	40	20	19	24	21	30	36	38	23	12	30	31	30	29	31	18	28	10	32.1
	Minimum	6	11	15	18	15	11	28	12	13	13	7	−8	8	2	6	11	11	19	19	2	5	0	−3	9	−11	0	10	1	−16	−20	−41	4.9
Mott	Maximum	23	38	40	45	39	46	48	48	37	26	26	28	36	40	32	28	25	27	28	34	24	22	24	21	18	23	20	28	21	12	6	29.5
	Minimum	7	16	23	29	26	32	24	11	18	13	9	5	21	26	18	16	11	14	19	18	5	−7	−6	−20	−24	−12	−10	−3	−3	−15	−22	7.7
Napoleon	Maximum	40	46	38	47	45	40	55	51	34	35	33	33	35	33	18	23	26	28	28	31	27	20	4	4	7	27	23	32	19	16	−7	28.7
	Minimum	18	18	22	26	21	15	29	16	18	16	14	1	6	7	11	13	16	15	14	3	16	0	−10	−23	−7	17	9	10	−10	−8	−23	8.7
New England §§	Maximum	....	....	....	....	....	....	....	....	48	....	31	38	31	38	44	31	28	28	31	28	21	28	24	19	24	27	27	33	37	22	19	[b]29.9
	Minimum	....	....	....	....	....	....	....	....	....	23	....	15	0	1	20	21	21	21	16	18	18	15	15	8	8	10	−22	−14	13	19	−5	−22	[b] 8.7
New Salem	Maximum	45	48	46	52	47	38	48	50	45	33	31	32	41	36	32	23	28	26	35	36	24	22	12	21	29	25	21	34	17	18	15	32.6
	Minimum	26	29	18	25	19	17	28	18	19	22	12	8	12	9	13	16	16	19	17	9	18	2	−8	−20	9	15	9	8	7	−13	−25	11.4
Orange	Maximum	45	53	46	54	44	54	57	49	40	36	33	34	42	52	47	25	26	27	41	39	36	21	11	16	28	27	24	41	37	19	−4	35.5
	Minimum	30	23	27	18	27	18	21	12	24	27	18	−4	−1	17	19	18	18	21	20	3	18	2	−8	−26	−6	17	16	15	13	−9	−15	12.0
Park River	Maximum	16	19	32	32	28	33	43	44	34	28	26	23	31	....	....	23	21	27	25	30	20	18	5	10	22	20	18	26	20	14	−9	[b]23.7
	Minimum	8	3	19	9	13	1	23	23	15	20	11	−1	10	....	....	1	14	12	22	7	15	4	−14	−9	4	15	12	10	9	−9	−24	[b] 7.7
Pembina §§	Maximum	28	26	32	28	32	38	32	38	40	32	30	28	32	10	15	20	32	31	32	22	18	12	−4	20	30	28	32	16	4	−4	−4	23.5
	Minimum	8	5	5	8	5	−2	4	2	5	7	4	2	−6	−4	−6	2	−2	10	26	18	5	−2	−4	−12	−10	−6	8	4	−2	−4	−32	1.2
Steele	Maximum	36	42	45	50	46	50	65	49	47	37	28	34	32	35	24	24	25	34	24	20	6	6	5	7	26	25	18	34	25	5	−12	28.8
	Minimum	21	24	28	25	30	20	30	28	28	21	20	2	7	15	18	16	18	24	15	8	2	1	−4	−8	−3	15	9	10	−5	−12	−34	12.2
Towner	Maximum	28	42	39	33	31	40	47	39	34	29	23	27	36	26	15	21	20	25	30	27	19	14	9	30	28	26	20	25	18	13	−8	26.0
	Minimum	17	13	22	13	17	19	29	18	17	20	15	−2	9	4	6	10	17	18	20	2	3	0	−18	5	18	20	0	5	5	−8	−38	8.9
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton	Maximum	24	30	40	42	35	30	42	50	57	35	32	32	31	29	25	31	29	34	34	34	30	24	13	7	10	19	25	25	14	21	21	29.2
	Minimum	16	18	20	28	10	8	17	20	26	29	14	2	6	12	15	14	19	30	16	17	15	6	−12	−10	−6	8	9	6	−5	1	−17	10.7
Washburn	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum	29	24	23	29	30	43	40	43	42	38	21	20	32	20	21	19	19	25	30	24	19	6	10	6	29	25	25	10	8	13	2	23.6
	Minimum	1	5	8	10	20	20	30	18	18	9	5	0	5	−1	6	10	16	16	10	2	2	−5	−7	−7	11	0	−2	2	−3	−13	−35	4.9
Williston	Maximum	42	48	41	46	43	54	49	50	34	33	27	35	42	28	26	23	24	32	33	31	25	12	16	20	31	27	28	30	25	0	−6	31.0
	Minimum	20	20	28	31	24	28	30	20	30	26	6	3	16	14	16	19	16	24	15	10	8	3	−2	2	18	18	14	17	0	−20	−30	13.9
Willow City	Maximum	24	35	31	32	22	42	44	39	30	27	24	20	21	14	12	20	18	23	30	22	25	7	8	12	27	25	20	17	11	−8	−11	21.4
	Minimum	4	10	13	11	10	−2	12	12	15	20	9	−6	−4	0	6	10	16	16	22	−6	0	−1	−13	−13	−5	14	−7	−6	−3	−11	−37	2.8
Zap	Maximum	40	36	40	44	40	45	53	45	32	32	30	28	39	31	24	22	23	26	33	32	20	19	13	20	28	25	24	36	24	14	−8	29.4
	Minimum	22	16	20	20	23	20	24	13	19	25	20	−8	8	13	15	19	15	22	21	6	11	1	3	−18	5	19	12	11	10	−11	−34	11.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.

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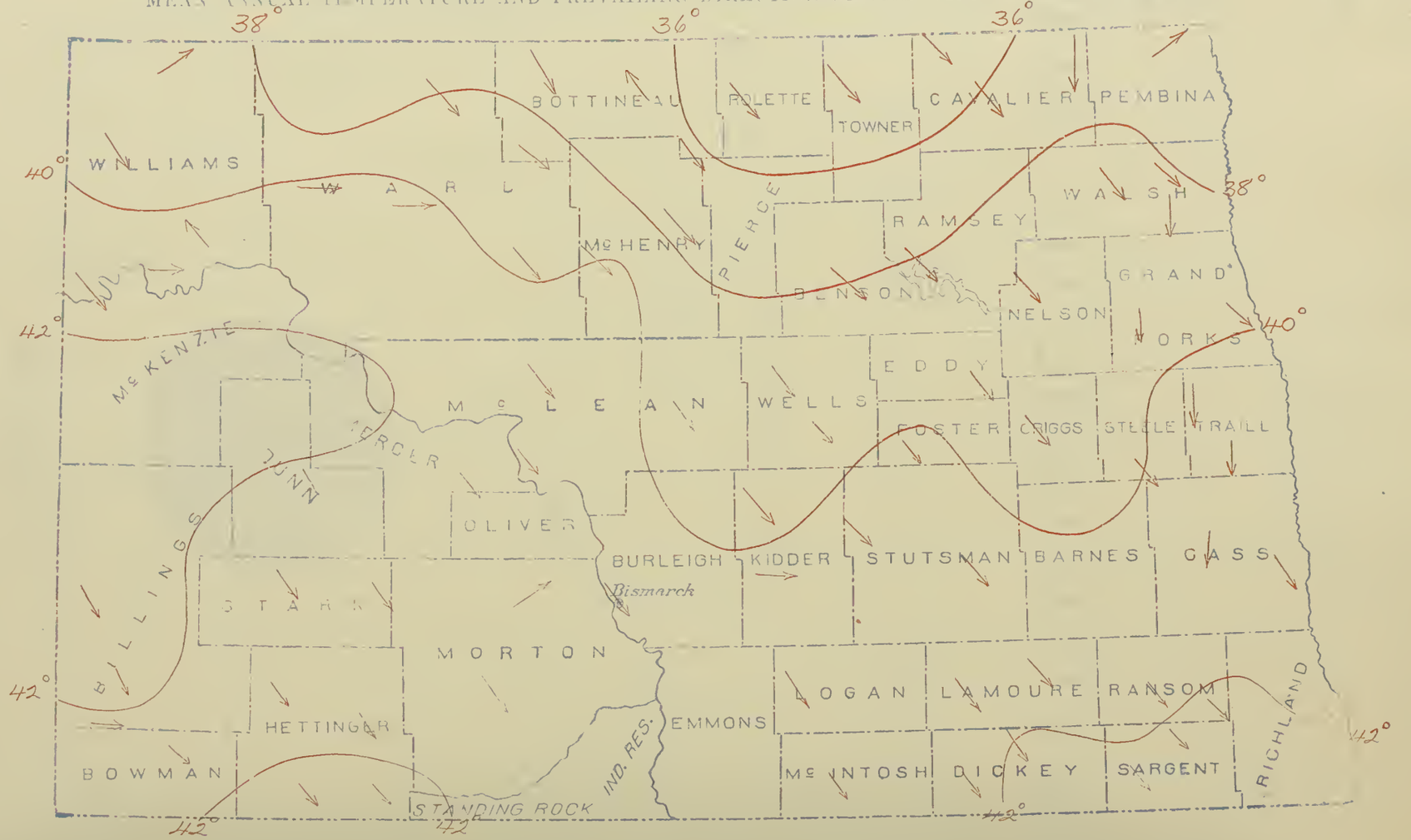
NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1918

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 6, 1919.

MEAN ANNUAL TEMPERATURE AND PREVAILING DIRECTION OF THE WIND FOR THE YEAR 1918



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., ANNUAL, 1918. No. 13.

GENERAL SUMMARY.

While adverse weather conditions prevailed over the central and western portions of North Dakota during critical periods of crop development, the results from a financial standpoint were above the average, due to increased prices for all farm products. In the eastern portion, and in certain localities of the central and western portions of the State, excellent yields were obtained. The year opened with unusually cold weather, which with high winds caused much suffering of humans and livestock and interfered greatly with traffic and other outside work. Mild and pleasant weather followed in February and continued throughout March, April and May. Spring work began early and made excellent progress, and prospects were excellent at the close of the last named month. Vegetation started early and afforded early pasturage for livestock. These favorable conditions were brought to a close, however, during June, when droughty conditions prevailed. The situation, however, was relieved somewhat by cool nights and mild day temperatures. Early sown crops which had stooled heavily and late crops which had not germinated to much extent suffered the most. This condition continued throughout June and well into July, the drought being broken on the 21st of the latter month, after which favorable weather prevailed during the remainder of the growing season. Harvesting and threshing were not interfered with to any great extent by weather conditions, an epidemic of Spanish Influenza, together with the war's demands for labor, being the only deterrent. Fall plowing made less than the usual progress, owing to soil dryness during September and October. The weather during November and December was favorable for outside work, and the general lack of snow covering allowed livestock to graze upon the pastures and ranges.

The average precipitation for the State was 16.42 inches, or 1.52 inches below the normal, and 5.53 inches above the average for 1916. The greatest annual precipitation reported was 25.54 inches at Jamestown, Stutsman County; the least was 10.18 inches at Bowman, Bowman County. The greatest monthly amount reported was 9.30 inches at Jamestown, Stutsman County, in August; there was none at McClusky, Sheridan County, in February; at Maddock, Benson County, in February and October; at Sanish, Mountrail County, in September and October; at Towner, McHenry County, in March, and at Westhope, Bottineau County, in February. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.89 inches in 1917. The average snowfall for the State was 31.4 inches. The greatest depth of snowfall reported was 55.4 inches at Fullerton, Dickey County; the least was 10.4 inches at Colgate, Steele County. The average number of days with 0.01 inch or more of precipitation was 63. There were 159 clear days, 104 partly cloudy, and 102 cloudy days. The prevailing wind was northwest.

The mean annual temperature was 39.9°, or 1.1° above the normal, and 3.6° higher than the mean for 1917. The highest mean annual temperature reported was 43.4° at Hettinger, Adams County; the lowest was 35.2° at Langdon, Cavalier County. The highest temperature reported was 102° at Buford, Williams County, on June 9th; Eckman, Bottineau County, on June 10th; Grand Rapids, LaMoure County, on July 20th, Minot, Ward County, on June 10th, and Williston, Williams County, on June 10th; the lowest was −44° at Langdon, Cavalier County, on January 30th. The temperature averaged above the normal during seven months of the year, and below the normal during five months. During the past twenty-seven years there have been but seven warmer years, the highest mean being 41.0° in 1900 and 1910. The lowest mean annual temperature was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was −56° at Goodall, McKenzie County, on January 12, 1916.

THE WEATHER BY MONTHS.

JANUARY.—Unusually cold weather, with deficient precipitation, prevailed over the entire Section. There have been but five colder Januarys in the climatological history of the State. The month opened with mild temperature, but with the exception of the first few days the temperature remained below the normal during the balance of the month. Much of the time the low temperature was accompanied by high winds, which interfered greatly with railway and wagon traffic, and other outside work. The light snowfall allowed livestock on the ranges to secure much feed and effected a great saving to those interested. Some reports of insufficient snow covering for winter rye were received, especially in the northeastern portion of the State.

FEBRUARY.—The weather was mild and pleasant and, following the severe weather of the preceding month, afforded a great relief to all classes, particularly to stockmen. During the past twenty-seven years, since the Climatological Service was established in North Dakota, there have been but six Februarys with milder temperature. There was more than the usual sunshine, and no severe storms occurred. All of the precipitation occurred in the form of snow, but was greatly deficient. Owing to the mildness of the weather in the region of the upper tributaries of the Missouri River, a number of streams broke up, and the gorging of ice caused local floods. No serious loss, however, occurred.

MARCH.—Decidedly dry and mild weather prevailed over the State. With but one exception (1910) the temperature was the highest of record for the month; in fact the weather was quite similar to that which prevailed during the month mentioned, March, 1910. The precipitation was below the normal but ample for all needs. Spring work progressed almost without interruption. Much spring wheat and spring rye were seeded, and spring plowing was well advanced at the close of the month. Grasses on the ranges afforded considerable feed for livestock. Reports of winter-killing of rye, especially in the northeastern portion of the State, were received, but as an unprecedented acreage of rye was seeded, the ratio of damage was small. The ice in the Missouri River broke during the month and although it caused some uneasiness for a few days did no damage of consequence.

APRIL.—Favorable weather prevailed over the State. Spring work continued without much interruption throughout the month, and was well advanced at the close. As a result of the favorable conditions, an immense acreage of spring wheat was practically completed, and the seeding of barley and oats well advanced, while plowing for corn and forage crops was started. Timely rains with mild temperature caused grass on pastures and ranges to make rapid growth, and livestock was in excellent condition at the close of the month.

MAY.—Favorable weather prevailed over the State and crop prospects at the close of the month were excellent. Except in the extreme northeast portion the rainfall was ample for all needs. The wind movement was somewhat above the average and some damage to corn from sand blowing was reported; cut worms also damaged this crop to some extent. Winter rye was damaged considerably from lack of snow covering during the

winter and considerable was plowed up and the ground planted to other crops in the northeast portion of the State. Spring wheat stooled heavily and indicated a heavy yield.

JUNE.—Owing to deficient rainfall, the weather conditions were rather unfavorable. Temperature conditions, however, were favorable, the cool nights and moderate day temperatures helping to conserve moisture. Crops at the opening of the month were in excellent condition and so continued during the first decade, but from the 10th to the close of the month the drought began to show its effects, especially over the western two-thirds of the State. The crops to suffer most were the early sown wheat, which had stooled too heavily to withstand the drought, and the late sown flax, considerable of which failed to germinate. Rye failed to fill properly, and the oat crop was generally in poor condition at the close of the month. Corn withstood the drought extremely well, and at the close of the month was in a satisfactory condition. Grasshoppers did considerable damage to crops in the southwestern part of the State.

JULY.—Droughty conditions of the preceding month continued until the 21st, when timely rains effected much benefit to late crops. Spring wheat in the western part of the State generally headed short, but filled nicely following the rains above mentioned. Winter rye was mostly harvested during the month, and the results were generally below the average. Crops were above the average in the eastern portion of the State, and fair to good in the central and western portions. Hail caused considerable damage in portions of the Red River Valley, and in isolated localities in the northern part.

AUGUST.—Favorable weather for the development and harvesting of crops generally prevailed. The temperature averaged slightly above the normal, and the precipitation was ample for all needs. Harvesting of wheat, oats and barley made good progress, and the yields were generally somewhat above expectations, being good in the eastern part, and fair in the central and western parts.

SEPTEMBER.—Exceptionally favorable weather for threshing and late harvesting prevailed, but the ground was mostly too dry for fall plowing. Some reports of dryness interfering with the seeding of winter rye were received, and it is believed that a somewhat reduced acreage of this crop will result. Threshing made good progress, and was well advanced at the close of the month. Late flax was damaged by freezing temperatures in some localities; this condition is also true as to late planted corn, much of which was cut for silage in the central and western portions.

OCTOBER.—The weather during October was one of the driest as well as one of the warmest of record for that month in the climatological history of the State, covering a period of twenty-seven years. Owing to the mild, dry weather excellent progress was made in threshing, the greater portion of which was completed. An epidemic of Spanish influenza spread over the entire State, and interfered with threshing considerably. There was nearly the normal sunshine, and the wind movement was also about the average. By and large, the weather of the month was the most delightful of record.

NOVEMBER.—The weather during the month was changeable. The month opened with temperature above the normal. Scattered showers occurred from the 2d to the 5th, in many instances accompanied by thunder and lightning, a rare occurrence in these latitudes at that season of the year. Snowstorms on the 7th and 8th stopped threshing, which had not been completed during the preceding month, owing to sickness and to war's demands for labor.

DECEMBER.—Favorable weather generally obtained throughout the month. Although the snowfall was considerably above the normal generally, most of the heavy amounts occurred on the 29th and 30th, although some heavy falls were reported on the 21st. The temperature was above the average continuously, with the exception of the period, 22d to 24th, inclusive, when a cold wave occurred, and again on the 29th and 30th, when a severe cold wave covered the State. Livestock benefited by the mild weather conditions, and, owing to the lack of snow on the ranges, grazing was permitted during practically the entire month.

ERRATA, ANNUAL SUMMARY, 1917.

Page 101: Annual precipitation at Minto should be 11.06; snowfall at Napoleon, 42.0; mean temperature at Westhope, 34.5. Page 102: December precipitation at Minto should be 0.67, departure, +0.21, annual precipitation, 11.06 and departure, −8.05. Page 103: December mean temperature at Minto should be −1.4 and departure, −12.3. December mean temperature at Westhope, 34.4 and departure, −2.1; December mean temperature at Zap, 0.6. Page 105: December lowest temperature and date at Mott should be −37 on 13th.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	May 20	Sept. 27	Lakota	May 20	Sept. 9
Ashley	" 22	" 3	Lamoine	" 26	" 3
Beach	" 29	" 3	Langdon	" 21	" 3
Berthold Agency	" 22	" 3	Larimore	" 26	" 3
Bierman	" 26	" 15	Linton	" 22	" 17
Bismarck	" 20	" 18	Lisbon	" 20	" 10
Bottineau	" 21	" 3	McClusky	" 19	" 8
Bowbells	" 21	" 3	McHenry	" 26	" 3
Bowman	" 22	" 3	McKinney	June 3	" 3
Buford	" 20	.....	McLeod	May 20	" 17
Carson	" 22	Sept. 3	Maddock	" 20	" 3
Colgate	" 20	" 3	Mandan	" 20	" 20
Crosby	" 20	" 9	Manfred	" 20	" 9
Devils Lake	" 20	" 3	Marmarth	" 22	" 15
Dickinson	" 22	" 15	Marstonmoor	June 30	" 3
Donnybrook	" 27	" 3	Mayville	May 20	" 10
Dunn Center	.....	" 9	Melville	.....	" 3
Dunseith	May 26	" 3	Minot	May 26	" 3
Eckman	" 20	" 3	Minto	.....	" 9
Edgeley	" 21	" 3	Mott	May 22	" 3
Ellendale	" 20	" 15	Napoleon	June 30	" 9
Energy	" 14	" 3	New England	May 22	" 9
Epping	.....	" 8	New Salem	" 20	" 9
Fessenden	May 20	" 3	Orange	" 22	" 3
Forman	June 3	" 18	Park River	" 15	" 9
Fryburg	May 28	" 15	Pembina	" 26	" 3
Fullerton	" 20	" 18	Sanish	" 14	" 9
Garrison	" 20	" 9	Steele	" 19	" 3
Grafton	" 20	" 9	Taylor	" 22	" 3
Grand Forks	" 14	" 20	Towner	" 20	" 3
Grand Rapids	" 20	" 15	Valley City	" 20	.....
Granville	" 20	" 9	Wahpeton	" 20	Sept. 17
Hannah	" 26	" 3	Walhalla	" 25	" 18
Hansboro	" 27	" 3	Washburn	" 20	" 9
Hettinger	" 27	" 3	Westhope	" 20	" 3
Hillsboro	" 20	" 10	Williston	" 22	" 9
Howard	" 28	" 3	Willow City	" 20	" 3
Jamestown	" 20	" 20	Zap	" 22	" 3
			Moorhead, Minn.	" 12	" 17

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−58	18.14	+0.20
1893	35.8	−3.0	112	−54	15.85	−2.09
1894	40.4	+1.6	107	−47	16.10	−1.84
1895	37.8	−1.0	104	−50	19.09	+1.15
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.46	−2.48
1899	36.3	−2.5	109	−48	17.93	−0.01
1900	41.0	+2.2	114	−48	19.05	+1.11
1901	40.4	+1.6	110	−43	18.48	+0.54
1902	39.6	+0.8	106	−39	17.61	−0.33
1903	38.4	−0.4	108	−49	19.30	+1.36
1904	38.0	−0.8	103	−52	19.19	+1.25
1905	39.3	+0.5	107	−46	20.88	+2.94
1906	39.5	+0.7	109	−40	20.53	+2.59
1907	37.0	−1.8	104	−49	14.89	−3.05
1908	40.6	+1.8	104	−41	18.79	+0.85
1909	38.2	−0.6	109	−48	17.77	−0.17
1910	41.0	+2.2	114	−50	12.34	−5.60
1911	38.3	−0.5	108	−43	19.09	+1.15
1912	38.2	−0.6	124	−52	20.50	+2.56
1913	40.1	+1.3	106	−54	14.92	−3.02
1914	40.0	+1.2	109	−47	19.21	+1.27
1915	39.6	+0.8	104	−48	19.51	+1.57
1916	36.0	−2.8	105	−56	20.32	+2.38
1917	36.3	−2.5	114	−48	10.89	−7.05
1918	39.9	+1.1	102	−44	16.42	−1.52

Climatological Data for the Year 1918.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	23	40.3	100	Aug. 3	−32	Jan. 30†	23	14.60	2.97	Aug.	0.05	Feb.	.....	70	155	96	114	n.
Ashley	McIntosh	2,001	22	41.1	99	July 19†	−33	Jan. 30	22	16.25	2.35	May	0.17	Sept.	43.0	47	.....	.....	.....	nw.
Beach	Golden Valley	2,576	13	.....	100	June 9	−41	Feb. 20	13	11.00	2.71	Aug.	T.	Mar.	.....	51	.....	.....	.....	nw.
Berthold Agency	McLean	2,082	25	42.1	101	June 10	−38	Dec. 31	25	11.18	2.78	July	0.14	Feb.	18.9	56	213	74	78	nw.
Bierman	Slope	.....	3	42.8	96	June 10	−35	Feb. 20	3	15.64	3.78	July	0.37	Nov.	47.9	82	154	49	162	nw.
Bismarck	Burleigh	1,674	44	42.2	101	June 10	−29	Jan. 30†	44	13.50	2.62	Aug.	0.28	Oct.	43.4	81	140	102	123	nw.
Bottineau	Bottineau	1,638	27	37.2	100	July 20	−40	Jan. 30†	27	12.68	3.90	Aug.	0.03	Mar.	.....	88	122	93	150	se.
Bowbells	Burke	1,958	7	36.5	97	July 18†	−37	Dec. 31	7	13.61	3.87	Aug.	0.16	Mar.	.....	56	.....	.....	.....	.....
Bowman	Bowman	.....	4	41.6	101	July 31	−37	Jan. 30†	4	10.18	2.26	Apr.	0.21	Feb.†	34.0	77	167	96	102	nw.
Buford	Williams	1,944	40	.....	102	June 9	−38	Jan. 13†	40	.....	3.23	Aug.	.....	.....	.....	.....	.....	.....	.....	nw.
Cando	Towner	1,488	16	.....	.....	.....	.....	.....	18	11.55	2.75	July	T.	Jan.†	.....	50	.....	.....	.....	.....
Carson	Grant	2,500	7	41.4	100	July 31	−38	Jan. 30	7	13.85	2.99	Apr.	0.14	Feb.	38.8	68	.....	.....	.....	nw.
Colgate	Steele	1,177	4	39.7	99	May 5	−34	Jan. 30	5	16.70	4.71	Aug.	0.02	Feb.	10.4	52	171	105	89	nw.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	4	19.08	7.10	Aug.	T.	Feb.†	23.5	45	217	109	39	nw.
Crosby	Divide	1,954	11	39.2	101	June 10	−34	Dec. 31	11	16.42	4.39	Aug.	0.02	Feb.	21.9	65	.....	.....	.....	sw.
Devils Lake	Ramsey	1,478	14	37.9	96	June 10	−36	Jan. 30	14	17.71	3.69	May	0.14	Feb.	32.2	99	117	105	143	nw.
Dickinson	Stark	2,543	27	41.2	99	July 21	−37	Feb. 20	27	12.36	2.99	Aug.	0.10	Nov.	25.6	52	160	53	152	nw.
Donnybrook	Ward	1,760	15	40.4	101	June 10	−33	Dec. 31	20	11.72	3.65	Aug.	T.	Feb.	10.6	38	.....	.....	.....	w.
Dunn Center	Dunn	2,191	.....	.....	.....	.....	.....	.....	1	14.97	3.48	Aug.	0.28	Oct.	.....	52	.....	.....	.....	nw.
Dunseith	Rolette	1,682	23	.....	96	June 10	−36	Jan. 30†	23	.....	3.81	Aug.	0.07	Jan.	.....	.....	.....	.....	.....	nw.
Eckman	Bottineau	.....	13	38.6	102	June 10	−39	Dec. 31	13	14.82	3.40	Aug.	0.13	Feb.	21.0	60	165	109	91	nw.
Edgeley	LaMoure	1,468	18	41.4	101	July 20	−31	Feb. 21	18	13.07	3.32	July	0.07	Sept.	.....	52	48	192	125	nw.
Ellendale	Dickey	1,449	1	40.8	97	July 19	−35	Feb. 21	1	19.14	3.47	Aug.	0.14	Sept.	38.5	86	108	129	128	nw.
Energy	McLean	1,750	.....	.....	.....	.....	.....	.....	6	16.77	6.08	July	0.08	Feb.	.....	63	.....	.....	.....	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	11	13.02	3.56	Aug.	0.28	Feb.	32.0	57	171	120	74	se.
Fessenden	Wells	1,610	7	38.0	98	June 10†	−34	Jan. 30†	7	21.10	5.93	Aug.	0.10	Feb.	39.7	76	221	55	89	nw.
Forman	Sargent	1,249	27	42.9	100	Aug. 3†	−28	Jan. 30	27	19.01	4.39	May	0.07	Sept.	31.0	64	.....	.....	.....	nw.
Fullerton	Dickey	1,439	21	42.3	98	Aug. 3	−33	Feb. 21	21	18.23	3.62	Apr.	0.18	Sept.	55.4	48	159	106	100	nw.
Garrison	McLean	1,901	24	40.2	99	June 10	−33	Jan. 30†	24	17.57	4.13	July	0.06	Oct.	20.7	65	148	129	88	nw.
Grafton	Walsh	827	27	37.5	97	Aug. 3	−38	Jan. 30	27	17.14	3.11	July	0.21	Mar.	.....	83	.....	.....	.....	nw.
Grand Forks	Grand Forks	830	27	38.9	98	Aug. 3	−35	Jan. 30	27	20.31	4.04	July	0.04	Mar.	41.9	89	196	78	91	nw.
Grand Rapids	LaMoure	1,321	8	41.5	102	July 20	−32	Jan. 30	8	17.23	3.83	Aug.	0.05	Feb.	25.0	45	.....	.....	.....	nw.
Granville	McHenry	1,504	12	40.0	100	June 10	−36	Dec. 31	12	12.40	2.88	July	T.	Feb.	.....	55	.....	.....	.....	nw.
Hannah	Cavalier	1,568	12	36.5	94	Aug. 3	−43	Jan. 30	12	18.43	3.62	July	0.12	Mar.	31.0	49	.....	.....	.....	nw.
Hansboro	Towner	1,597	11	.....	97	June 10	−38	Jan. 26	11	14.89	4.06	Aug.	T.	Jan. †	15.4	58	.....	.....	.....	nw.
Hettinger	Adams	2,253	11	43.4	98	June 10†	−35	Feb. 20	11	.....	3.17	July	.....	.....	.....	.....	212	79	74	nw.
Hillsboro	Traill	901	13	40.5	99	Aug. 3	−33	Jan. 30	13	17.55	3.50	Aug.	T.	Mar.	19.0	77	122	188	55	n.
Howard	Williams	2,275	10	38.3	100	June 10	−39	Feb. 20	10	19.01	5.76	Aug.	T.	Feb.	41.5	43	144	120	101	nw.
Jamestown	Stutsman	1,390	27	40.0	100	July 20†	−41	Jan. 11	27	25.54	9.30	Aug.	0.10	Feb.	32.5	72	.....	.....	.....	nw.
Lakota	Nelson	1,579	18	.....	94	Aug. 3	−38	Jan. 30	18	13.95	2.74	Aug.	0.12	Mar.	49.5	60	.....	.....	.....	nw.
Lamoine	Kidder	1,936	11	37.8	95	June 10†	−38	Jan. 30	11	18.41	4.65	July	0.05	Oct.	.....	.....	.....	.....	.....	nw
Langdon	Cavalier	1,615	23	35.2	93	June 10	−44	Jan. 30	23	18.15	3.92	July	0.10	Mar.	22.5	71	.....	.....	.....	nw.
Larimore	Grand Forks	1,134	24	39.1	96	May 5	−35	Jan. 30	24	20.80	3.33	Apr.	0.10	Mar.	26.4	81	141	92	132	n.
Lisbon	Ransom	1,091	15	40.4	100	Aug. 3	−33	Jan. 30	15	15.30	3.12	June	T.	Oct.	25.5	52	210	64	91	nw.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	1	21.63	6.63	Aug.	0.00	Feb.	42.5	64	.....	.....	.....	nw.
McHenry	Foster	1,509	9	38.0	96	June 10	−37	Jan. 30	9	23.97	7.17	Aug.	T.	Jan.†	47.0	56	222	73	70	nw.
McKinney	Renville	1,640	25	39.4	100	July 20	−33	Dec. 29†	25	13.39	4.58	Aug.	T.	Jan.†	16.5	42	.....	.....	.....	nw.
McLeod	Ransom	1,075	6	42.2	97	July 20	−32	Jan. 30	7	19.61	4.32	May	0.20	Feb.†	24.8	84	145	116	104	nw.
Maddock	Benson	1,604	4	39.2	96	June 10	−37	Jan. 30	4	16.37	3.62	May	0.00	Feb.†	.....	43	.....	.....	.....	nw.
Mandan	Morton	1,644	5	41.2	100	June 10	−32	Feb. 21	6	.....	2.61	Apr.	0.11	Feb.	.....	.....	.....	.....	.....	.....
Manfred	Wells	1,605	16	39.8	98	June 10	−33	Dec. 31	16	20.56	5.70	Aug.	0.12	Feb.	45.1	80	148	127	90	nw.
Marmarth	Slope	.....	6	41.2	97	July 31	−38	Jan. 30†	10	15.86	4.26	Aug.	0.35	Oct.	52.4	84	.....	.....	.....	w.
Marstonmoor	Stutsman	1,945	9	.....	97	July 20†	.....	.....	10	.....	3.10	Aug.	.....	.....	.....	.....	.....	.....	.....	nw.
Mayville	Traill	975	23	41.4	100	July 20†	−35	Jan. 30	23	21.45	8.60	Aug.	0.02	Mar.	.....	71	213	55	97	n.
Melville	Foster	1,590	21	40.8	101	July 20	−34	Dec. 21	21	20.43	4.63	May	0.05	Feb.	47.9	46	.....	.....	.....	nw.
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	7	17.99	3.92	May	0.14	Sept.	20.2	52	179	74	112	nw.
Minot	Ward	1,557	20	37.7	102	June 10	−41	Dec. 31	23	15.93	3.11	July	0.14	Mar.	36.9	64	140	108	117	nw.
Minto	Walsh	820	26	39.3	98	Aug. 3	−39	Jan. 30	26	16.41	2.88	July	0.15	Mar.	.....	81	171	77	117	n.
Mott	Hettinger	2,424	12	41.4	100	July 31	−37	Feb. 19	12	13.60	2.66	Apr.	0.33	Dec.	33.8	83	139	103	123	nw.
Napoleon	Logan	1,955	27	39.9	101	July 31	−38	Jan. 30	27	15.75	4.70	Aug.	0.10	Jan.	40.0	67	181	61	123	uw.
New England	Hettinger	2,400	25	.....	95	June 10	.....	.....	25	.....	2.27	July	.....	.....	.....	.....	.....	.....	.....	nw.
New Salem	Morton	2,163	14	40.8	99	July 19	−35	Jan. 30	14	13.75	2.49	Apr.	0.14	Oct.	39.8	69	214	72	79	sw.
Orange	Adams	2,586	10	42.2	101	July 31	−34	Feb. 20	10	12.21	2.94	May	0.08	Oct.	33.0	47	68	163	134	nw.
Park River	Walsh	998	15	39.2	96	June 10	−35	Jan. 30	15	14.65	4.09	July	T.	Feb.	14.6	64	.....	.....	.....	nw.
Pembina	Pembina	789	39	37.9	97	July 20	−38	Jan. 30	45	12.72	3.92	June	0.05	Mar.	18.0	58	111	171	83	sw.
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	4	16.32	5.72	Aug.	0.05	Feb.	24.5	43	125	146	94	w.
Sanish	Mountrail	2,260	4	.....	.....	.....	.....	.....	4	.....	3.72	Aug.	0.00	Sep.†	.....	.....	.....	.....	.....	.....
Steele	Kidder	1,857	22	41.4	100	July 3	−38	Jan. 31	23	24.53	6.07	Aug.	0.52	Feb.	45.1	79	168	165	32	w.
Taylor	Stark	2,493	3	.....	99	July 31	−40	Jan. 11	3	13.84	2.40	Apr.	0.19	Feb.	.....	56	.....	.....	.....	nw.
Towner	McHenry	1,482	17	39.9	99	June 10	−38	Dec. 31	17	12.35	2.66	June	0.00	Mar.	21.5	40	156	104	105	nw.
Valley City	Barnes	1,245	1	.....	101	Aug. 3	.....	.....	1	.....	4.21	May	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	Richland	962	25	41.6	100	July 20	−34	Jan. 30†	25	17.49	3.82	May	0.10	Feb.	.....	74	197	48	120	nw.
Walhalla	Pembina	966	12	38.1	98	June 10†	−43	Jan. 26	12	20.45	3.67	July	0.05	Mar.	32.0	72	.....	.....	.....	n.
Washburn	McLean	1,734	20	.....	99	June 11	.....	.....	20	.....	4.65	July	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	Bottineau	1,508	13	37.7	98	July 20	−40	Jan. 30	13	11.81	3.11	June	0.00	Feb.	.....	54	.....	.....	.....	nw.
Williston	Williams	1,875	40	40.8	102	June 10	−33	Jan. 13†	40	13.84	3.66	Aug.	0.13	Feb.	19.1	77	105	156	104	w.
Willow City	Bottineau	1,471	27	36.3	98	June 10	−40	Jan. 30	27	14.71	3.38	Aug.	0.12	Mar.	26.5	56	.....	.....	.....	nw.
Zap	Mercer	1,800	6	39.4	94	June 10	−37	Jan. 31	6	17.17	5.24	Aug.	0.06	Feb.	34.0	75	146	111	108	nw.
Moorhead, Minn.	Clay	935	38	41.4	99	July 20	−30	Jan. 30	38	20.42	4.90	Aug.	0.29	Sept.	31.8	110	193	76	96	nw.

† Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1918, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.21	−0.24	0.05	−0.33	0.06	−0.58	2.11	+0.18	2.05	−1.04	2.35	−1.48	1.49	−1.82	2.97	−0.11	0.15	−1.90	1.50	+0.10	0.45	−0.05	1.21	+0.77	14.60	−6.50
Ashley	0.90	+0.38	0.40	−0.05	0.90	−0.35	2.18	+0.14	2.35	−0.21	1.76	−1.79	2.10	−0.58	2.08	−0.30	0.17	−0.90	1.30	+0.23	1.21	+0.69	0.90	+0.45	16.25	−2.29
Beach	0.24	−0.48	0.35	−0.22	T.	−0.78	2.27	+1.13	1.31	−1.89	0.48	−3.85	1.81	−0.18	2.71	+0.66	0.28	−1.29	0.40	−0.63	0.48	−0.04	0.67	+0.18	11.00	−7.39
Berthold Agency	0.59	+0.18	0.14	−0.53	0.18	−0.78	2.49	+1.41	1.46	−1.29	0.51	−3.61	2.78	+0.80	1.68	−0.05	0.38	−1.10	0.35	−0.57	0.23	−0.31	0.39	0.00	11.18	−5.85
Bierman	0.72	.....	0.64	.....	0.80	.....	2.38	.....	2.59	.....	0.90	.....	3.78	.....	1.43	.....	0.50	.....	0.46	.....	0.37	.....	1.07	.....	15.64	.....
Bismarck	0.62	+0.08	0.29	−0.21	0.85	−0.19	2.13	+0.25	2.03	−0.47	0.59	−2.95	2.09	−0.05	2.62	+0.64	0.47	−0.72	0.28	−0.75	0.51	−0.17	1.02	+0.40	13.50	−4.14
Bottineau	0.28	−0.16	0.10	−0.31	0.03	−0.93	0.75	−0.08	1.93	−0.35	2.13	−1.28	1.57	−0.98	3.90	+1.93	0.35	−1.44	0.55	−0.53	0.62	+0.02	0.47	−0.08	12.68	−4.19
Bowbells	0.30	.....	0.40	.....	0.16	.....	1.81	.....	1.56	.....	0.81	.....	2.45	.....	3.87	.....	0.28	.....	0.53	.....	0.70	.....	0.74	.....	13.61	.....
Bowman	0.37	.....	0.21	.....	0.85	.....	2.26	.....	1.77	.....	0.93	.....	1.61	.....	1.76	.....	0.30	.....	0.32	.....	0.21	.....	0.21	.....	10.80	.....
Buford	0.30	−0.20	0.22	−0.27	0.11	−0.44	1.73	+0.65	0.73	−1.70	0.48	−2.33	2.15	+0.45	3.23	+1.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cando	T.	−0.40	T.	−0.22	T.	−0.71	0.86	−0.02	2.32	−0.23	1.40	−2.42	2.75	+0.10	1.91	−0.46	0.34	−1.21	0.42	−0.38	1.23	+0.75	0.32	−0.03	11.55	−5.23
Carson	0.60	.....	0.14	.....	0.89	.....	2.99	.....	2.16	.....	1.21	.....	1.68	.....	1.58	.....	0.63	.....	0.17	.....	0.55	.....	1.25	.....	13.85	.....
Colgate	0.17	.....	0.02	.....	0.05	.....	1.66	.....	3.26	.....	2.21	.....	2.43	.....	4.71	.....	0.04	.....	0.75	.....	0.90	.....	0.50	.....	16.70	.....
Cooperstown	0.30	−0.21	T.	−0.35	T.	−0.71	1.65	+0.70	2.50	+0.31	2.78	−1.05	1.05	−1.85	7.10	+4.53	0.40	−1.34	0.55	−0.48	1.05	+0.67	1.70	+1.35	19.68	+1.57
Crosby	0.62	+0.04	0.02	−0.23	0.49	−0.23	2.14	+1.26	1.89	−0.38	0.88	−2.44	3.67	+1.81	4.39	+2.08	0.15	−1.22	0.55	−0.14	0.92	+0.01	0.70	+0.18	16.42	+0.74
Devils Lake	0.24	−0.36	0.14	−0.39	0.22	−0.79	2.86	+0.83	3.69	+1.49	2.00	−1.53	2.81	−0.97	2.25	−0.51	0.48	−0.91	0.55	−0.68	1.80	+1.09	0.67	+0.28	17.71	−2.45
Dickinson	0.39	−0.06	0.25	−0.24	0.31	−0.59	2.11	+0.89	1.67	−0.91	1.61	−1.26	1.73	−0.55	2.99	+0.97	0.48	−0.61	0.42	−0.34	0.10	−0.43	0.30	−0.15	12.36	−3.28
Donnybrook	0.25	−0.10	T.	−0.65	0.10	−0.79	2.00	+1.15	0.97	−1.60	0.52	−2.30	1.63	−1.33	3.65	+1.31	0.17	−1.85	0.20	−0.70	1.28	+0.65	0.95	+0.41	11.72	−5.80
Dunn Center	0.40	.....	0.60	.....	0.35	.....	3.38	.....	1.43	.....	0.86	.....	2.97	.....	3.48	.....	0.39	.....	0.28	.....	0.40	.....	0.43	.....	14.97	.....
Dunseith	0.07	−0.39	0.20	−0.25	0.20	−0.78	1.40	+0.67	2.65	+0.96	2.41	−0.61	3.37	+0.96	3.81	+1.58	0.51	−1.14	0.63	−0.09	1.31	+0.96	.....	.....	.....	.....
Eckman	0.40	−0.16	0.13	−0.21	0.50	+0.01	1.42	+0.44	2.01	−0.41	2.09	−0.87	1.97	−0.73	3.40	+1.07	0.45	−0.85	0.49	−0.34	1.23	+0.73	0.73	+0.11	14.82	−1.21
Edgeley	0.17	−0.13	0.11	−0.22	0.10	−0.82	2.64	+0.73	1.25	−1.56	1.00	−2.43	3.32	+0.53	2.68	+0.29	0.07	−1.75	0.32	−0.72	1.03	+0.71	0.38	−0.05	13.07	−5.42
Ellendale	0.42	.....	0.50	.....	0.71	.....	2.46	.....	3.27	.....	2.47	.....	2.64	.....	3.47	.....	0.14	.....	0.23	.....	2.16	.....	0.67	.....	19.14	.....
Energy	0.48	.....	0.08	.....	0.59	.....	2.19	.....	1.96	.....	0.37	.....	6.08	.....	3.09	.....	0.46	.....	0.38	.....	0.42	.....	0.67	.....	16.77	.....
Epping	0.87	.....	0.28	.....	0.29	.....	1.70	.....	1.07	.....	0.24	.....	3.16	.....	3.56	.....	0.40	.....	0.29	.....	0.39	.....	0.77	.....	13.02	.....
Fessenden	0.44	.....	0.10	.....	0.24	.....	2.01	.....	2.90	.....	2.58	.....	3.14	.....	5.93	.....	0.13	.....	0.57	.....	1.71	.....	1.35	.....	21.10	.....
Forman	0.08	−0.43	0.10	−0.33	0.80	−0.12	1.82	−0.39	4.39	+1.49	2.31	−1.06	2.19	−0.73	2.97	0.00	0.07	−1.75	0.48	−0.88	2.05	+1.54	1.75	+1.26	19.01	−1.40
Fryburg	.....	.....	.....	.....	.....	.....	2.68	.....	1.92	.....	1.17	.....	2.03	.....	1.48	.....	0.47	.....	0.35	.....	0.54	.....	0.50	.....	.....	.....
Fullerton	0.47	−0.18	0.61	−0.12	0.94	−0.37	3.62	+1.71	2.12	−1.09	1.97	−1.16	2.89	−0.38	1.31	−1.61	0.18	−2.11	0.24	−0.99	2.58	+1.90	1.30	+0.44	18.23	−3.96
Garrison	0.46	−0.05	0.24	−0.40	0.63	−0.40	1.91	+0.85	3.89	+1.53	0.80	−2.55	4.13	+1.78	3.77	+1.88	0.92	−0.43	0.06	−0.76	0.44	−0.24	0.32	−0.17	17.57	+1.04
Grafton	0.54	−0.04	0.35	−0.19	0.21	−0.53	2.55	+1.04	1.69	−0.54	2.13	−1.22	3.11	+0.58	2.46	−0.24	1.25	−0.66	0.89	0.00	1.12	+0.48	0.84	+0.34	17.14	−0.98
Grand Forks	0.50	−0.02	0.27	−0.23	0.04	−0.69	2.55	+0.46	3.20	+0.64	0.79	−2.74	4.04	+1.45	3.94	+1.31	0.46	−1.54	1.20	−0.08	1.03	+0.30	2.29	+1.79	20.31	+0.65
Grand Rapids	0.50	.....	0.05	.....	0.55	.....	2.48	.....	1.58	.....	1.06	.....	3.33	.....	3.83	.....	0.28	.....	0.32	.....	2.45	.....	0.80	.....	17.23	.....
Granville	0.42	+0.01	T.	−0.23	0.19	−0.34	1.49	+0.48	1.59	−0.44	1.53	−1.57	2.88	+0.72	1.47	−0.89	0.23	−1.16	0.26	−0.64	1.30	+0.85	1.04	+0.58	12.40	−2.63
Hannah	0.40	−0.61	0.40	−0.13	0.12	−0.50	1.44	+0.32	3.03	+0.44	3.12	−0.20	3.62	+1.21	1.72	−0.42	0.81	−1.38	0.75	−0.17	1.92	+1.28	1.10	+0.32	18.43	+0.16
Hansboro	T.	.....	0.02	.....	T.	.....	0.98	.....	2.20	.....	1.75	.....	3.63	.....	4.06	.....	0.49	.....	0.57	.....	0.57	.....	0.62	.....	14.89	.....
Hettinger	.....	.....	.....	.....	.....	.....	1.54	+0.81	1.38	−0.96	1.93	−1.76	3.17	+0.21	0.87	−0.58	0.33	−1.35	0.19	−0.57	0.14	−0.24	0.30	−0.12	.....	.....
Hillsboro	0.50	−0.27	0.25	−0.45	T.	−0.91	2.93	+0.81	2.69	−1.18	2.20	−1.47	1.22	−1.58	3.50	+0.41	0.66	−2.07	1.55	+0.55	0.90	+0.15	1.15	+0.19	17.55	−5.82
Howard	0.50	−0.33	T.	−0.72	0.27	−0.91	3.14	+2.04	3.84	+1.50	0.72	−2.27	2.35	+0.67	5.76	+4.08	0.02	−1.44	0.03	−0.70	0.75	+0.15	1.63	+0.77	19.01	+2.84
Jamestown	0.35	−0.19	0.10	−0.50	0.53	−0.48	2.81	+1.02	2.36	−0.50	3.31	−0.45	2.79	−0.03	9.30	+6.59	0.11	−1.43	0.65	−0.27	1.68	+0.95	1.55	+0.81	25.54	+5.52
Lakota	0.52	−0.18	0.16	−0.38	0.12	−0.47	1.56	−0.02	2.04	−0.16	1.06	−2.50	2.48	−0.50	2.74	+0.26	0.64	−0.55	0.62	−0.29	1.34	+0.64	0.67	−0.16	13.95	−4.31
Lamoine	0.40	−0.25	0.10	−0.23	0.48	−0.37	1.34	+0.49	3.76	+1.41	1.96	−1.60	4.65	+1.94	3.90	+1.83	0.27	−1.34	0.05	−0.66	0.40	−0.16	1.10	+0.60	18.41	+1.66
Langdon	0.40	−0.31	0.20	−0.62	0.10	−0.57	2.08	+1.04	1.52	−0.61	3.56	−0.23	3.92	+1.37	2.10	−0.61	1.02	−1.09	0.54	−0.45	1.66	+1.12	1.05	−0.11	18.15	−1.07
Larimore	0.80	+0.30	0.22	−0.11	0.10	−0.73	3.33	+1.81	2.05	−0.33	3.23	−0.22	3.12	+0.09	2.63	−0.35	1.43	−0.22	1.91	+0.60	0.85	+0.47	1.13	+0.74	20.80	+2.05
Linton	0.50	.....	0.27	.....	.....	.....	1.65	.....	2.80	.....	2.00	.....	1.20	.....	4.95	.....	0.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lisbon	0.85	+0.22	0.20	−0.61	1.00	+0.42	2.19	+0.15	2.04	−1.41	3.12	−1.50	2.86	−0.69	2.28	+0.12	0.26	−1.96	T.	−1.18	0.45	−0.06	0.05	−0.46	15.30	−6.96
McClusky	0.90	.....	0.00	.....	0.80	.....	2.12	.....	2.44	.....	1.41	.....	4.34	.....	6.63	.....	0.18	.....	0.25	.....	0.96	.....	1.60	.....	21.63	.....
McHenry	T.	.....	T.	.....	0.70	.....	1.86	.....	3.85	.....	3.05	.....	3.25	.....	7.17	.....	0.12	.....	0.90	.....	1.17	.....	1.90	.....	23.97	.....
McKinney	T.	−0.36	T.	−0.31	0.05	−0.79	1.75	+0.80	1.59	−0.59	0.73	−2.73	2.31	+0.24	4.58	+3.01	0.40	−1.22	0.43	−0.35	0.40	−0.27	1.15	+0.72	13.39	−1.85
McLeod	1.10	.....	0.20	.....	0.20	.....	2.62	.....	4.32	.....	2.47	.....	3.56	.....	2.36	.....	0.32	.....	0.33	.....	1.23	.....	0.90	.....	19.61	.....
Maddock	0.30	.....	0.00	.....	0.40	.....	1.47	.....	3.62	.....	1.73	.....	3.06	.....	3.31	.....	0.17	.....	0.00	.....	2.01	.....	0.36	.....	16.37	.....
Mandan	0.20	.....	0.11	.....	0.45	.....	2.61	.....	1.69	.....	1.44	.....	2.47	.....	2.03	.....	0.63	.....	0.27	.....	0.45	.....	.....	.....	.....	.....
Manfred	0.46	−0.22	0.12	−0.31	0.57	−0.29	1.84	+0.58	2.94	+0.42	1.68	−2.02	3.61	+1.32	5.70	+3.35	0.19	−1.27	0.48	−0.43	2.05	+1.37	0.92	+0.14	20.56	+2.64
Marmarth	0.80	.....	0.56	.....	0.70	.....	2.02	.....	1.83	.....	1.35	.....	2.10	.....	4.26	.....	0.52	.....	0.35	.....	0.66	.....	0.71	.....	15.86	.....
Marstonmoor	.....	.....	.....	.....	0.65	.....	3.06	.....	2.95	.....	0.90	.....	2.25	.....	3.10	.....	0.20	.....	0.23	.....	1.75	.....	.....	.....	.....	.....
Mayville	0.28	−0.09	0.06	−0.34	0.02	−0.66	2.62	+0.95	1.71	−1.24	2.36	−0.65	2.11	−1.25	8.60	+5.37	0.86	−1.70	1.15	−0.09	0.83	+0.16	0.85	+0.38	21.45	+0.84
Melville	0.30	−0.05	0.05	−0.30	1.20	+0.58	2.44	+1.42	4.63	+2.03	1.47	−1.95	2.32	−0.51	2.91	+0.76	0.43	−0.91	0.85	−0.05	2.03	+1.61	1.80	+1.45	20.43	+4.08
Milnor	0.65	.....	0.20	.....	1.16	.....	2.13	.....	3.92	.....	2.05	.....	2.45	.....	2.03	.....	0.14	.....	0.87	.....	1.62	.....	0.77	.....	17.99	.....
Minot	0.43	+0.06	0.18	−0.32	0.14	−0.61	2.25	+0.99	1.61	−0.50	0.98	−2.26	3.11	+1.15	2.42	+0.18	0.25	−1.41	0.44	−0.53	2.62	+1.99	1.50	+1.13	15.93	−0.13
Minto	0.28	−0.20	0.21	−0.35	0.15	−0.75	2.63	+1.02	1.25	−1.24	1.64	−1.70	2.88	+0.09	2.71	+0.07	1.08	−1.03	1.31	+0.12	1.24	+0.68	1.03	+0.57	16.41	−2.72
Mott	0.88	+0.04	0.62	+0.10	1.10	+0.15	2.66	+1.41	1.94	−0.61	1.70	−2.06	1.78	−0.60	1.11	−0.69	0.60	−1.18	0.36	−0.93	0.52	+0.04	0.33	−0.24	13.60	−4.57
Napoleon	0.10	−0.41	0.15	−0.30	0.35	−0.56	3.30	+1.56	1.40	−1.06	2.02	−1.76	1.33	−1.15	4.70	+2.19	0.32	−0.98	0.89	+0.01	0.74	+0.04	0.45	−0.04	15.75	−2.46
New England	.....	.....	.....	.....	0.60	−0.22	1.80	+0.82	1.65	−0.60	1.74	−0.77	2.27	+0.49	1.76	−0.14	0.29	−0.90	0.15	−0.49	.....	.....	0.12	−0.30	.....	.....
New Salem	0.89	+0.23	0.49	+0.14	0.81	−0.16	2.49	+1.36	2.20	−0.40	1.07	−3.18	2.29	−0.02	0.94	−0.87	0.62	−0.89	0.14	−0.96	0.24	−0.09	1.57	+1.10	13.75	−3.74
Orange	0.50	.....	0.60	.....	0.90	.....	1.52	.....	2.94	.....	2.05	.....	0.92	.....	1.20	.....	0.16	.....	0.08	.....	0.34	.....	1.00	.....	12.21	.....
Park River	0.05	−0.38	T.	−0.41	0.25	−0.30	2.04	+0.71	3.16	+0.78	0.87	−2.75	4.09	+1.60	1.47	−0.99	0.71	−0.91	1.09	+0.09	0.44	−0.32	0.48	−0.09	14.65	−2.97
Parshal	0.44	.....	T.	.....	0.00	.....	2.56	.....	1.38	.....	0.09	.....	1.99	.....	2.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pembina	0.35	−0.24	0.62	−0.13	0.05	−0.90	1.30	−0.35	0.30	−2.33	3.92	+0.27	2.68	+0.09	1.74	−0.64	0.20	−1.65	0.60	−0.89	0.81	+0.09	0.15	−0.70	12.72	−7.38
Powers Lake	0.25	.....	0.05	.....	0.25	.....	2.30	.....	0.80	.....	1.20	.....	3.36	.....	5.72	.....	0.33	.....	0.36	.....	0.40	.....	1.30	.....	16.32	.....
Sanish	0.80	.....	.....	.....	0.47	.....	1.57	.....	0.78	.....	0.15	.....	1.88	.....	3.72	.....	0.00	.....	0.00	.....	.....	.....	.....	.....	.....	.....
Steele	1.18	+0.83	0.52	+0.05	0.85	+0.01	2.13	+1.07	3.29	+0.90	1.58	−1.75	4.66	+2.00	6.07	+3.79	0.28	−0.92	0.64	−0.08	1.91	+1.32	1.42	+1.04	24.53	+8.26
Taylor	1.38	.....	0.19	.....	0.30	.....	2.40	.....	2.23	.....	1.47	.....	1.89	.....	2.34	.....	0.46	.....	0.47	.....	0.29	.....	0.42	.....	13.84	.....
Towner	0.30	−0.24	T.	−0.41	0.00	−1.07	0.91	−0.38	1.53	−1.26	2.66	−1.02	2.42	−0.18	1.55	−0.78	0.31	−1.63	0.49	−0.59	1.13	+0.67	1.05	+0.70	12.35	−6.19
Valley City	0.05	.....	.....	.....	0.36	.....	1.31	.....	4.21	.....	2.19	.....	1.82	.....	3.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	0.32	−0.11	0.10	−0.45	0.19	−0.77	3.69	+1.35	3.82	+1.02	1.33	−2.58	3.79	−0.27	1.79	−1.44	0.14	−1.94	0.90	−0.74	1.22	+0.55	0.20	−0.23	17.49	−5.61
Walhalla	0.40	−0.43	0.65	+0.16	0.05	−0.67	2.81	+1.58	3.39	+0.54	1.33	−1.80	3.67	+0.47	2.59	−0.02	1.13	−0.82	1.14	+0.13	1.69	+1.11	1.50	+0.35	20.45	+0.60
Washburn	0.74	−0.35	0.02	−0.37	0.26	−0.43	1.97	+0.92	1.93	−0.49	1.73	−1.98	4.65	+2.35	3.72	+2.43	0.16	−1.11	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	T.	−0.49	0.00	−0.23	0.75	+0.20	0.88	−0.10	2.33	+0.09	3.11	−0.01	0.53	−1.53	2.49	+0.22	0.33	−1.10	0.29	−0.38	0.78	+0.30	0.32	−0.02	11.81	−3.05
Williston	0.75	+0.17	0.13	−0.34	0.48	−0.20	2.22	+0.99	1.04	−1.22	0.57	−3.00	2.27	+0.24	3.66	+2.35	0.30	−0.61	0.38	−0.39	1.04	+0.44	1.00	+0.34	13.84	−1.23
Willow City	0.40	+0.05	0.15	−0.25	0.12	−0.58	1.15	+0.22	2.25	+0.25	1.57	−1.96	2.60	+0.43	3.38	+1.43	0.35	−1.41	0.52	−0.15	1.62	+1.21	0.60	+0.18	14.71	−0.58
Zap	0.28	.....	0.06	.....	0.23	.....	1.89	.....	2.03	.....	1.06	.....	4.80	.....	5.24	.....	0.54	.....	0.31	.....	0.23	.....	0.50	.....	17.17	.....
Moorhead, Minn.	0.61	−0.10	0.35	−0.38	0.37	−0.77	2.63	+0.30	2.73	−0.22	1.78	−2.35	2.68	−1.06	4.90	+1.80	0.29	−2.01	1.51	−0.56	1.27	+0.29	1.30	+0.56	20.42	−4.50

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1918, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	-1.8	-7.1	9.0	+1.2	34.4	+10.9	41.0	-1.1	50.7	-3.8	[b]61.0	-3.1	66.4	-1.9	68.7	+2.5	53.1	-4.2	48.8	+3.8	33.0	+6.7	18.8	+6.2	40.3	+0.9
Ashley	[b] 0.4	-7.2	13.2	+4.8	35.4	+13.4	40.4	-2.4	53.4	+0.6	64.1	+2.1	66.9	-1.4	[a]67.6	+1.7	54.4	-2.9	47.2	+3.2	29.7	+2.5	[a]20.0	+6.0	41.1	+1.7
Beach	[b] 0.8	-8.6	.....	.....	.....	.....	39.8	-3.3	52.8	+2.7	66.6	+5.1	65.6	-1.4	66.0	+1.1	53.6	-2.5	50.6	+6.1	.....	.....	23.0	+5.7	.....	.....
Berthold Agency	1.4	-5.3	14.0	+4.7	[b]37.1	+12.1	[b]42.5	-1.0	53.4	-0.9	[a]65.4	+2.1	67.8	-1.1	67.6	-0.5	54.0	-3.6	[a]46.6	+1.0	31.2	+3.7	23.9	+6.9	42.1	+1.5
Bierman	6.8	.....	16.0	.....	37.6	.....	39.8	.....	52.5	.....	67.0	.....	66.3	.....	68.5	.....	54.4	.....	49.5	.....	30.0	.....	25.2	.....	42.8	.....
Bismarck	1.4	-5.3	14.2	+5.9	36.5	+14.4	43.0	+0.4	54.2	-1.0	65.8	+1.6	68.0	-2.2	68.8	+0.7	53.9	-3.2	47.5	+3.4	31.4	+5.4	21.6	+6.6	42.2	+2.2
Bott neau	-4.8	-4.7	4.9	+2.8	33.0	+15.3	40.8	+1.7	48.0	-3.2	61.2	+3.1	64.0	-1.7	63.4	+0.3	52.4	-3.3	43.8	+1.3	26.4	+4.2	13.7	+6.2	37.2	+1.8
Bowbells	-4.6	.....	8.0	.....	31.6	.....	39.1	.....	46.6	.....	[d]59.2	.....	61.8	.....	62.9	.....	49.4	.....	42.6	.....	25.6	.....	16.3	.....	36.5	.....
Bowman	5.8	.....	14.2	.....	36.0	.....	39.6	.....	52.2	.....	65.4	.....	66.2	.....	66.3	.....	53.8	.....	47.2	.....	29.3	.....	23.8	.....	41.6	.....
Buford	0.1	-5.7	11.4	+0.7	34.8	+11.2	44.8	+2.1	53.6	-0.6	65.7	+1.4	68.2	-1.2	67.8	+0.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caudo	-[b]6.8	-5.8	7.6	+4.2	[c]33.4	+12.9	[f]46.8	-0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43.6	+1.4	.....	.....	.....	.....	.....	.....
Carson	2.8	.....	13.0	.....	34.8	.....	40.8	.....	53.6	.....	63.4	.....	67.1	.....	67.5	.....	[a]52.6	.....	46.8	.....	31.2	.....	23.6	.....	41.4	.....
Colgate	-1.0	.....	11.8	.....	36.6	.....	42.6	.....	53.4	.....	61.8	.....	67.0	.....	65.8	.....	49.6	.....	45.3	.....	28.8	.....	14.8	.....	39.7	.....
Crosby	-0.8	-2.4	10.6	+2.8	36.2	+14.4	[f]40.8	+0.1	49.2	-0.9	63.1	+2.4	65.1	-0.5	64.2	+0.5	51.0	-2.6	45.0	+2.8	27.0	+0.2	19.4	+6.0	39.2	+1.9
Devils Lake	-4.6	-4.9	8.6	+4.1	34.2	+15.7	41.2	+3.0	48.9	-3.8	61.2	-1.4	63.2	-4.9	65.2	0.0	50.4	-5.2	44.4	+3.9	27.1	+4.5	14.9	+6.9	37.9	+1.5
Dickinson	1.8	-8.6	11.3	-0.6	35.6	+10.9	40.7	-2.0	52.4	-0.2	64.3	+2.7	67.2	-0.7	67.0	+0.4	53.3	-3.3	47.2	+3.0	30.6	+3.3	23.2	+4.8	41.2	+0.8
Donnybrook	-0.8	-4.4	11.7	+3.7	37.0	+13.7	43.7	+4.3	50.9	+1.0	[a]63.9	+2.4	[b]65.3	-0.2	65.8	+0.9	[a]53.0	-1.8	45.7	+2.4	[a]30.0	+2.0	[e]18.9	+4.6	40.4	+2.4
Dunseith	-2.8	-6.1	6.7	+3.0	32.3	+13.5	40.6	+0.2	48.3	-4.1	60.7	-0.9	62.8	-1.1	63.4	-0.1	50.2	-4.6	43.6	+1.4	26.7	+1.7	.....	.....	.....	.....
Eckman	-3.2	-3.8	10.4	+4.0	34.7	+12.6	42.9	+1.3	49.4	-1.2	61.8	+0.5	64.2	-1.6	64.6	+1.3	49.9	-5.6	43.3	+0.6	28.4	+2.1	[a]16.9	+7.3	38.6	+1.4
Edgeley	1.7	-6.1	13.9	+3.0	35.5	+9.0	41.4	-1.8	54.6	+1.1	64.1	+1.3	66.6	-1.9	68.0	+1.6	52.8	-4.7	48.3	+2.4	30.2	-0.2	20.3	+3.8	41.4	+0.6
Ellendale	1.4	.....	13.0	.....	34.9	.....	41.1	.....	53.6	.....	62.9	.....	66.2	.....	67.6	.....	52.5	.....	47.6	.....	29.4	.....	18.9	.....	40.8	.....
Fessenden	-3.0	.....	9.9	.....	34.0	.....	39.8	.....	47.9	.....	60.0	.....	62.3	.....	65.0	.....	51.0	.....	45.0	.....	27.0	.....	16.6	.....	38.0	.....
Forman	-[b]1.0	-7.9	15.2	+5.5	37.7	+12.1	[a]44.8	+0.9	57.1	+1.6	[b]63.4	-2.2	69.2	0.0	71.0	+3.4	54.2	-4.9	[a]50.3	+4.4	31.8	+4.6	[b]21.4	+6.4	42.9	+2.0
Fullerton	2.4	-6.0	14.6	+5.3	36.2	+10.6	41.4	-0.9	54.7	+1.2	65.0	+2.0	69.5	+1.7	71.2	+5.1	55.1	-1.3	48.4	+3.8	29.2	+0.8	19.6	+5.4	42.3	+2.3
Garrison	-0.5	-7.7	11.6	+3.1	35.0	+13.2	41.2	-1.2	51.4	-1.6	62.4	-0.4	65.3	-2.6	65.9	+0.1	52.2	-4.7	46.2	+2.0	29.9	+4.9	[a]21.3	+6.5	40.2	+1.0
Grafton	-4.4	-5.8	3.6	-2.3	33.6	+14.4	39.9	-0.1	49.0	-4.2	61.2	-2.1	62.6	-4.8	65.1	+0.8	50.9	-5.0	[a]45.2	+2.0	[b]28.6	+6.1	14.6	+6.4	37.5	+0.5
Grand Forks	-3.6	-7.6	8.4	+1.1	35.3	+12.5	41.8	-0.1	51.8	-1.9	61.9	-1.5	64.8	-2.4	67.3	+2.5	50.7	-5.3	45.6	+1.6	30.1	+4.8	13.2	+1.9	38.9	+0.4
Grand Rapids	1.2	.....	13.7	.....	35.5	.....	42.4	.....	54.2	.....	64.4	.....	67.0	.....	68.0	.....	52.1	.....	50.4	.....	28.8	.....	[a]19.8	.....	41.5	.....
Granville	-0.2	-1.9	13.4	+5.0	[a]35.2	+11.5	42.3	-0.2	50.1	-1.3	62.2	-0.9	65.2	-1.9	65.2	+1.3	51.0	-3.4	45.4	+1.3	29.4	+3.3	[a]20.3	+7.9	40.0	+1.8
Hannah	-6.6	-4.6	4.9	+2.9	32.8	+12.1	39.0	-0.1	48.2	-0.7	62.2	+3.0	61.8	-2.2	61.6	-1.0	[n]49.8	-4.7	44.8	+4.6	26.0	+2.7	[a]14.0	+6.6	36.5	+1.5
Hansboro	-5.0	.....	.....	.....	[c]33.6	.....	[c]40.0	.....	47.7	.....	[a]59.4	.....	[i]60.8	.....	[b]61.7	.....	48.8	.....	[a]42.6	.....	27.0	.....	[b]12.2	.....	.....	.....
Hettinger	7.3	-5.7	14.8	+0.4	39.0	+10.9	42.4	-3.1	56.0	+2.9	66.9	+4.7	67.6	-1.4	67.4	+0.4	54.4	-3.8	47.7	+0.4	32.2	-0.5	24.6	+7.9	43.4	+1.1
Hillsboro	-2.0	-5.9	11.0	+2.5	35.5	+10.8	42.8	-0.8	[b]54.2	+1.0	63.6	-0.8	65.6	-3.9	69.2	+2.3	51.8	-7.2	47.8	+1.8	30.8	+2.0	15.6	+3.0	40.5	+0.4
Howard	-3.0	-4.9	9.0	+1.9	32.9	+11.6	40.2	-0.3	49.3	-0.1	63.1	+3.2	62.6	-2.5	64.7	+1.3	51.2	-2.4	44.6	+2.4	25.5	-1.2	19.0	+5.8	38.3	+1.3
Jamestown	-4.0	-11.2	7.8	-0.4	33.0	+10.2	40.0	-2.5	50.0	-3.6	63.0	-0.6	[b]67.2	-1.0	67.0	+0.8	52.8	-3.9	[b]51.2	+5.7	31.6	+5.1	21.0	+6.3	40.0	+0.4
Lakota	-4.4	-3.2	6.3	+1.3	34.0	+14.7	39.8	+0.3	[d]47.8	-2.3	[b]59.8	-1.1	[b]62.6	-2.8	64.0	+0.8	[d]48.5	-6.6	[f]42.2	0.0	[a]27.3	+3.6	.....	.....	.....	.....
Lamoine	-3.9	-7.9	9.4	+1.7	33.8	+10.8	40.2	-2.4	49.8	-0.9	60.6	+0.1	62.4	-3.5	63.8	-0.1	50.4	-6.2	44.2	+1.1	26.5	-0.5	[b]16.8	+5.6	37.8	-0.2
Langdon	-6.6	-4.5	3.4	-0.5	30.6	+11.5	37.6	-0.7	46.1	-4.7	59.2	-0.6	59.8	-4.6	63.0	+1.3	49.1	-4.3	43.3	+2.0	26.2	+1.1	11.0	+2.3	35.2	-0.2
Larimore	-2.8	-6.1	9.6	+3.9	34.8	+13.6	41.2	+1.1	50.4	-2.3	61.6	-1.0	64.2	-2.0	66.6	+2.6	49.5	-5.4	47.4	+3.0	31.4	+7.0	15.4	+3.9	39.1	+1.5
Linton	1.6	.....	.....	.....	[c]43.0	.....	[b]51.2	.....	66.9	.....	.....	.....	.....	.....	69.2	.....	53.8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lisbon	3.2	-2.7	13.6	+4.0	34.0	+7.4	40.6	-2.1	53.6	+0.7	63.8	+0.7	68.1	-0.1	66.0	-0.5	51.6	-6.1	43.8	-1.5	28.4	-1.8	17.7	+3.6	40.4	+0.2
McHenry	-3.5	.....	8.5	.....	34.7	.....	41.7	.....	50.0	.....	61.9	.....	64.0	.....	64.9	.....	46.1	.....	45.4	.....	.....	.....	14.9	.....	38.0	.....
McKinney	-[a]3.4	-6.7	10.8	+6.1	35.3	+16.5	44.2	+3.7	52.8	+0.7	[e]62.4	+1.5	65.6	-0.1	64.4	+1.2	51.7	-2.0	43.8	+2.0	28.8	+5.6	[a]16.6	+5.3	39.4	+2.8
McLeod	[b] 1.8	.....	[b]14.4	.....	37.0	.....	43.8	.....	55.8	.....	64.8	.....	66.3	.....	69.0	.....	52.2	.....	49.6	.....	32.6	.....	19.4	.....	42.2	.....
Maddock	-2.7	.....	12.1	.....	34.9	.....	42.4	.....	51.2	.....	61.8	.....	63.8	.....	65.6	.....	51.4	.....	45.7	.....	26.9	.....	17.0	.....	39.2	.....
Mandan	1.2	.....	12.6	.....	35.8	.....	42.0	.....	52.4	.....	64.8	.....	67.4	.....	68.1	.....	52.9	.....	46.2	.....	30.0	.....	21.2	.....	41.2	.....
Manfred	-0.8	-4.8	11.8	+4.5	35.0	+11.8	42.0	-0.1	52.2	+0.5	63.4	+1.5	65.6	-1.0	65.8	+1.6	51.2	-4.7	45.9	+2.0	27.2	-1.1	17.8	+5.7	39.8	+1.4
Marmarth	5.2	.....	[a]12.5	.....	34.8	.....	[a]51.2	.....	65.6	.....	66.1	.....	[a]65.2	.....	53.1	.....	47.2	.....	28.8	.....	[a]26.2	.....	41.2	.....	.....	.....
Marstonmoor	.....	.....	.....	.....	[c]40.5	.....	51.2	.....	.....	.....	65.0	.....	64.3	.....	49.3	.....	[a]44.0	.....	25.8	.....	.....	.....	.....	.....	.....	.....
Mayville	-0.8	-7.4	12.6	+4.2	37.3	+14.1	43.4	+0.7	54.2	-0.9	64.0	-1.3	[c]64.4	-2.7	[g]71.6	+5.6	52.1	-4.4	47.8	+2.6	31.6	+3.8	17.2	+3.3	41.4	+1.4
Melville	-0.4	-6.8	[d]12.9	+5.7	[b]36.4	+13.6	[e]40.6	+0.7	[b]56.5	+3.8	[i]66.3	+3.2	[g]65.8	-1.9	[g]66.8	+0.7	[e]52.6	-3.6	[g]47.9	+4.2	26.2	-1.3	[e]17.8	+5.5	40.8	+2.0
Minot	-1.6	-7.4	9.4	+1.1	32.8	+11.6	[e]38.5	-3.0	48.0	-4.3	60.6	-2.7	62.0	-6.0	62.4	-2.7	51.3	-5.7	42.4	-2.0	28.4	-0.4	18.5	+4.8	37.7	-1.4
Minto	-4.2	-6.0	7.8	+1.9	35.0	+13.9	41.6	+1.0	[e]52.6	-0.8	63.2	-0.7	64.8	-2.3	68.6	+4.0	[a]49.7	-6.7	46.6	+3.4	31.2	+6.7	14.8	+3.9	39.3	+1.5
Mott	3.6	-4.0	10.6	-2.3	37.3	+10.0	39.5	-3.7	52.8	+1.5	64.9	+1.8	68.6	-0.1	72.0	+6.0	52.3	-3.9	47.8	+3.8	28.5	-1.4	18.6	+3.2	41.4	+0.9
Napoleon	-1.7	-8.0	9.9	+3.1	33.7	+12.3	39.7	-1.7	52.4	-0.4	63.5	-1.9	66.8	-1.3	67.0	+0.8	52.4	-4.5	46.6	+4.7	29.6	+4.6	18.7	+5.7	39.9	+1.1
New England	.....	.....	.....	.....	.....	.....	39.4	-3.1	51.5	+0.1	65.0	+2.6	65.8	-2.4	66.8	+0.4	53.7	-2.2	45.1	+1.2	.....	.....	[i]19.3	+0.8	.....	.....
New Salem	1.0	-6.8	12.8	+1.5	33.6	+8.9	39.6	-3.4	51.4	0.0	64.2	+1.2	66.3	-2.8	68.2	+1.8	53.6	-3.7	46.5	+1.6	30.3	-0.3	22.0	+6.1	40.8	+0.4
Orange	3.5	.....	14.4	.....	36.2	.....	41.0	.....	54.2	.....	65.1	.....	67.8	.....	69.0	.....	53.2	.....	47.6	.....	30.4	.....	23.8	.....	42.2	.....
Park River	-[b]3.9	-5.7	6.0	+0.3	[a]35.4	+13.3	[b]44.2	+2.7	[a]52.0	-0.2	63.0	-0.2	64.6	-3.2	67.6	+2.1	[d]51.6	-5.3	[b]44.6	+0.3	[b]29.6	+1.6	[b]15.7	+4.6	39.2	+0.9
Pembina	-6.4	-3.7	3.6	+1.8	33.2	+17.1	42.9	+5.4	51.5	-0.9	62.3	-0.4	64.6	-2.8	65.6	+1.7	50.8	-2.8	46.8	+6.8	28.0	+5.8	12.4	+5.8	37.9	+2.0
Sanish	[a] 1.5	.....	.....	.....	47.2	.....	[a]56.2	.....	67.6	.....	.....	.....	69.8	.....	55.4	.....	47.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	-0.8	-9.7	11.6	+4.8	36.6	+15.9	42.7	-1.5	53.8	-0.1	65.0	+2.3	[b]70.8	+2.2	66.2	-0.1	52.2	-5.2	47.8	+4.3	30.9	+4.9	20.5	+6.1	41.4	+2.0
Taylor	[a] 5.4	.....	[e]13.9	.....	.....	.....	40.6	.....	51.5	.....	64.6	.....	66.8	.....	[b]66.8	.....	[e]51.8	.....	[a]44.0	.....	27.0	.....	21.8	.....	.....	.....
Towner	-2.6	-5.4	11.9	+6.2	36.0	+17.0	43.4	+1.7	51.4	-0.7	64.2	+2.0	66.1	-0.8	66.8	+2.5	52.7	-3.0	45.2	+2.3	26.7	+2.6	17.4	+6.6	39.9	+2.6
Valley City	.....	.....	.....	.....	36.4	.....	42.2	.....	53.0	.....	62.4	.....	65.7	.....	68.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	-1.2	-9.2	12.0	+1.6	35.8	+9.0	41.8	-2.6	54.1	-1.7	64.2	-1.4	68.0	-1.2	68.2	+0.8	53.2	-5.5	49.8	+3.0	33.2	+6.4	20.0	+4.5	41.6	+0.3
Walhalla	-[a]2.6	-2.3	6.6	+2.8	[d]31.7	+11.8	41.8	+1.9	49.0	-1.1	61.6	-0.3	63.0	-3.7	63.8	-0.6	50.6	-5.3	45.8	+2.8	31.0	+3.9	14.8	+5.3	38.1	+1.3
Washburn	-0.6	-8.3	15.4	+5.3	37.0	+12.7	43.3	-0.9	55.0	+1.2	64.6	+0.2	67.4	-1.7	68.6	+1.3	55.2	-3.4	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	-[a]7.4	-6.2	7.8	+3.9	34.4	+13.5	43.2	+3.2	[a]45.8	-5.6	[d]60.4	-1.4	66.0	+0.3	64.6	+0.6	52.2	-2.4	44.6	+2.4	26.2	-0.1	14.2	+4.2	37.7	+1.1
Williston	0.3	-6.2	11.2	+3.3	35.6	+14.0	41.9	+1.4	51.5	-2.8	65.2	+1.7	66.2	-3.2	66.3	-1.6	52.8	-6.7	46.7	+3.8	29.2	+4.0	22.4	+8.8	40.8	+1.4
Willow City	-5.3	-6.2	6.0	+2.6	32.5	+14.4	40.4	+0.2	48.0	-3.9	59.4	-2.4	[a]62.6	-2.8	62.6	-1.2	49.5	-4.9	42.8	+0.6	25.4	+4.6	12.1	+2.4	36.3	+0.3
Zap	-0.8	.....	9.7	.....	33.3	.....	40.0	.....	50.8	.....	62.1	.....	64.4	.....	65.4	.....	52.2	.....	45.7	.....	29.8	.....	20.2	.....	39.4	.....
Moorhead, Minn.	-1.4	-4.1	12.0	+5.0	36.2	+14.8	42.6	+1.2	55.2	+0.4	64.4	+0.1	67.7	-1.0	69.4	+3.5	52.2	-4.4	47.6	+4.8	32.2	+7.8	18.1	+7.4	41.4	+3.0

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1918, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Amenia	40	1	57	23	76	30	73	13†	95	5	92[c]	10	99	20	100	3	82	1†	82	11	69	5	58	7
Ashley	41[a]	1	45	24	74	30	70	25	88	5	92	10	99	19	99[a]	3	85	12	78	15	58	3	55[a]	7
Beach	41[c]	3	.....	.....	75[p]	25	75	13	93	4	100	9	98	18†	93	3†	93	22	65[m]	11	.....	.....	59	6
Berthold Agency	48	3	52	10	75	25	78[h]	13	93	4	101[a]	10	100	23	95	2†	92	12	78[a]	11†	63	4†	58	6
Bierman	46	3	49	10	73	25	72	9†	88	4	96	10	94	2	92	2†	88	13	83	14	61	4	57	4
Bismarck	43	1	54	10	73	30	72	25	92	4	101	10	97	31	97	3	87	22	80	14	56	3	57	6
Bottineau	36	1	48	28	75	25	75	13	93	4	97	10	100	20	98	3	82	7	75	11	52	3†	41	7
Bowbells	34	4	42	10†	66	24†	74	13	91	4	92[c]	14	97	18†	90	2	83	21	75	3	55	4	48	6
Bowman	42	3†	45	10	74	25	75	13	89	4	94	10	101	31	98	2	91	22	87	14	69	4	61	4
Buford	46	3	46	5	75	25†	78	13	93	4	102	9	100	31	95	2	.....	.....	.....	.....	.....	.....	.....	.....
Cando	35[b]	2	44	23	68[e]	30	74[r]	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	73	11	.....	.....	.....	.....
Carson	40	1†	45	10	72	30	75	13	88	4	98	10	100	31	98	3	88[a]	12	84	14	62	4	55	6†
Colgate	37	1	50	23	82	30	80	14	99	5	92	10†	96	21	98	3	80	7†	80	13	65	5	50	7
Crosby	40	1	55	11	74	25	72[f]	9†	84	3	101	10	94	18	90	3	81	7	72	3†	52	3	43	7
Devils Lake	37	1	46	23	67	30	73	13	90	4	96	10	94	20	94	3	79	7	74	11	59	5	44	7
Dickinson	40	1	43	10	75	25	74	13	91	4	97	10	99	31	95	2†	90	22	87	14	63	4	56	6
Donnybrook	41	1	44	10	70	24	76	13	92	4	101[a]	10	97[b]	20	91	2	84[a]	7†	75	11	56[a]	3	55[c]	7
Dunseith	38	1	44	10	66	29	71	13†	92	4	96	10	96	20	90	3	78	7	.....	.....	50	2	.....	.....
Eckman	35	24	47	23	71	30	79	13	94	4	102	10	99	20	91	3	83	7	78	14	53	3	50[a]	6
Edgeley	42	1	48	10†	76	30	72	13†	90[a]	4†	97	10	101	20	98	3	84	7	80	11	63	5	57	7
Ellendale	43	1	51	10	75	30	72	13	88	5	92	10	97	19	95	3	83	12	80	4	65	5	58	7
Fessenden	39	2	48	23	70	30	74	13	91	4	98	10	97	20	98	3	80	6†	78	11†	58	5	50	7
Forman	36[a]	24	50	24	73	30	76[a]	13	94	5	93[b]	10	97	20	100	3†	84	7	84[a]	16	66	5	57	7
Fullerton	42	1	51	23	75	30	73	13	89	5	94	10	97	19†	98	3	82	12	79	11	66	5	58	7
Garrison	41	3	45	23†	70	25†	73	13	91	4	99	[s]10	94	20	88	2†	83	22	77	14	55	15	55[a]	6
Grafton	29[a]	24	46[a]	23	69	30	74	14	92	4	87	10	94	20	97	3	79[a]	27	78[a]	11	63[b]	6	44	7
Grand Forks	31	24	48	23	74	30	72	13	94	5	93	10	95	26	98	3	79	8†	73	4	65	5	44	7
Grand Rapids	41	1	48	23†	76	30	74	13	92	5	96	10	102	20	99	3	81	7†	79	11	65	5	56[a]	7
Granville	40	1	50	21	67[a]	25†	78	13	86	4	100	10	96	21	90	3	88	13	76	11†	57	3	52[a]	7
Hannah	28	3	41	10	64	23†	72	13	91	4	91	10	91	19†	94	3	79[n]	7	80	4	48	4	36[a]	7
Hansboro	38	1	.....	.....	68[f]	30	71[c]	14	92	4	97[a]	10	89[b]	23	93[h]	3	83	7	75[a]	11	56	3†	44[b]	9
Hettinger	46	4	54	12	76	35	75	13	86	3	98	10	98	2	97	3	85	12†	90	14	62	13	62	4
Hillsboro	32	24	49	23	73	30	72	25†	93[d]	5	92	10	98	20	99	3	78	1†	77	11	64	5	48	7
Howard	40	1	37	9	72	25	76	9†	90	4	100	10	96	18	92	2	82	7†	76	3†	56	3†	51	7
Jamestown	40	1	49	23†	71	30	71	14	90	5	98	10	100[d]	20	100	3	80	22	88[c]	20	62	5	59	8
Lakota	30	24	44	23	68	30	72	13	89[d]	5	92[b]	10	91[b]	20	94	3	78[d]	7	70[f]	4†	62[a]	5	.....	.....
Lamoine	38	1	47	23	68	25†	71	10	92	4	95	10	95	20	93	3	80	22	78	14	55	3†	52[b]	7
Langdon	28	1†	41	23	64	30	71	13	90	4	93	10	89	23	94	3	87	26	76	11	56	5	39	7
Larimore	32	1	48	23	71	30	71	14†	96	5	94	10	95	20	95	3	76	6	76	11	61	5	38	4
Linton	44	1	.....	.....	.....	.....	79[d]	25	88[b]	15	99	10	.....	.....	101	3	89	25	.....	.....	.....	.....	.....	.....
Lisbon	36	3	46	10	68	30	73	14	92	4	92	10	98	20	100	3	82	22	74	11	63	10	46	12
McHenry	35	1	47	23	69	30	74	13	93	5	96	10	92	20	94	3	78	6	76	21	46	12	37	2
McKinney	35[b]	1	50	24	72	29	77	13	98	4	92[f]	23	100	20	90	3†	81[a]	7	75	11†	60	3	50[a]	6†
McLeod	40[c]	1	52[c]	24	63	29	74	13	93	5	91	10	97	20	94	3	82	8	80	11†	66	5	53	19
Maddock	36	1	46	23	66	30	73	13	90	4†	96	10	95	20	91	3	80	7	75	11†	57	5	44	7
Mandan	43	1	50	10	74	30	73	13	91	4	100	10	98	20	95	4	87	12	80	14	55	3	58	6
Manfred	35	1†	46	23	68	30	75	13	90	4	98	10	96	20	92	3	80	7	75	14	58	5	45	7
Marmarth	44	2†	45[a]	10	72	25	72	13	88[a]	4	93	10	97	31	94[a]	2†	90	22	82	14	71	4	65[a]	4†
Marstonmoor	.....	.....	.....	.....	.....	.....	75[c]	25	91	3	90[a]	25	97	20	97	3	83	12	78[a]	11†	62	5	.....	.....
Mayville	34	25	50	23	76	29	73	14†	96	5	94	11	100	20	100[m]	4	80	8	78	11	68	5	49	7
Melville	34	1†	42[d]	23	66[b]	30	74	25	90[i]	15	92[i]	10	101[g]	20	96[f]	5	83[c]	27	83[g]	12	48	4	42[g]	7
Minot	42	1	48	10†	70	24†	70	13†	92.	4	102	10	97	20	87	2†	85	7	77	20	59	14	53	7
Minto	31	23	47	23	71	30	73	13†	94	5	94	11	96	20	98	3	80[a]	27	77	11	63	5	46	7
Mott	44	24	47	26	77	27	73	10	86	4	98	10	100	31	97	1	82	21	82	14	60	1	48	7†
Napoleon	40	1	46	24	75	30	76	26	92	5	96	10	101	31	102	3	88	22	84	14	59	3	55	7
New England	.....	.....	.....	.....	69[j]	25	70	14	88	4	95	10	93	19	93	2	81[a]	7†	83	14	.....	.....	48[j]	8
New Salem	46	3	47	10	72	30	71	11	90	4	98	10	99	19	96	3	89	12	84	14	58	5	52	4
Orange	44	3	55	10	75	25	73	13	90	4	95	10	101	31	99	3	90	22	85	15	64	4	57	7
Park River	31[b]	24	46	23†	69[b]	30	75[b]	14	91[a]	4	96	10	92	20	95	3	79[d]	27	76[b]	11	63[b]	5	44[b]	8
Pembina	25	4	42	10	62	17†	72	14†	94	4	92	10	97	20	94	3	90	26	76	12	54	5	40	9
Sanish	40[b]	1	.....	.....	.....	.....	81	13	91[a]	4	98	10	.....	.....	99	17	86	7	74	9†	.....	.....	.....	.....
Steele	40	1	47	24	71	31	72	12†	90	4†	95	9	100[b]	3	96	3	81	12	81	11	.....	.....	65	7
Taylor	44[b]	24	60[d]	24	....	.....	72[a]	13	88	4	95	10	99	31	97[b]	17	83[c]	7	66[a]	10†	52	4	42	4†
Towner	38	1	47	23	69	30	78	13	93	4	99	10	97	20	94	3	89	7	77	11	57	2	47	7
Valley City	36[d]	24	.....	.....	72	30	73	13	91	5	91	10	92	31	101	3	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	38	2	53	25	72	30	71	14	90	5	91	10	100	20	95	3	89	8	82	12†	69	6	57	9
Walhalla	30[a]	24	47	23	68[c]	30	75	14	93	4	98	10	92	23	95	3	78	26†	75	11	60	5	45	7
Washburn	41	3	48	10	74	30	78	10	93	4	99	11	95	18	84	4	84	22†	.....	.....	.....	.....	.....	.....
Westhope	41[a]	1	45	23	67	26	74	10†	94[a]	4	93[h]	25	98	20	90	1†	84	7	76	11	53	3	46	7
Williston	40	1	45	23	74	25	75	13	91	4	102	10	96	18	93	2	84	7	76	11	59	4	54	6
Willow City	35	1	43	23	65	29	72	13	92	4	98	10	94[k]	20	90	3	80	7	73	11†	56	5	44	7
Zap	40	3	43	7	70	24†	72	13†	91	4	94	10	94	20†	92	2†	86	22	83	14	62	4	53	7
Moorhead, Minn.	34	24	52	23	74	30	72	25	95	5	94	10	99	20	98	3	80	8	80	11	65	5	53	7

† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days, etc.

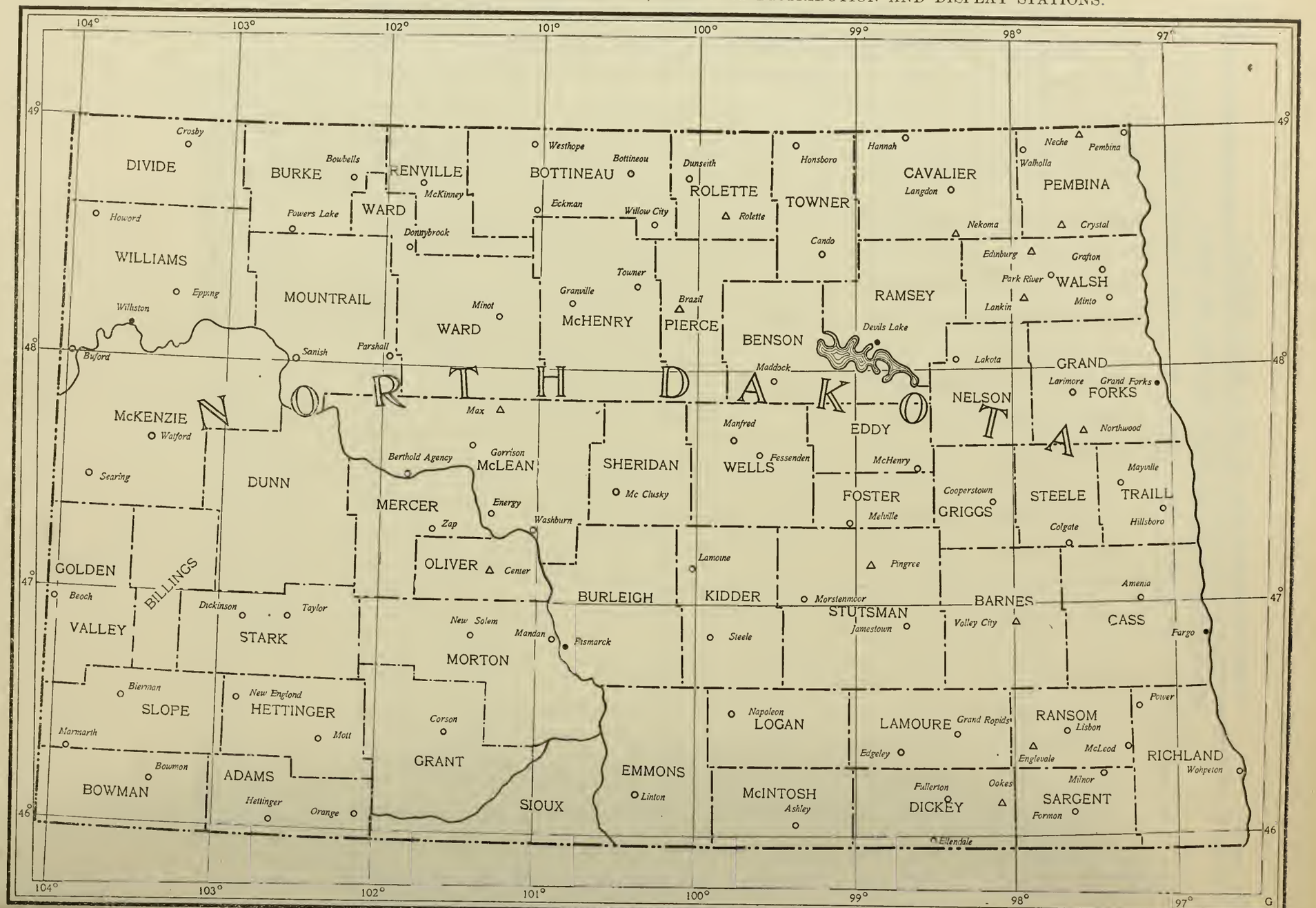
Monthly Minimum Temperatures for the Year 1918, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Amenia	−32	30†	−25	20	− 8	7	11	3	19	12	36	7	40	1	44	31	19	20	21	3	9	23†	−29	31
Ashley	−33[a]	30	−32	21	− 8	6	12	8	22	12	34	30	38	10	40[a]	26†	17	20	14	27	2	23	−20[a]	24
Beach	−37	30†	−41	20	− 4	8	13	3†	13	29	31	5	36	5†	39	31	16	19	28[m]	8	.....	.....	−31	31
Berthold Agency	−34	31	−32	21	− 7[b]	6	9[b]	3	19[a]	12	32[a]	4	38	5	38	31	22	18	7[a]	31	− 5	23†	−38	31
Bierman	−34	30	−35	20	−11	6	14	7	25	17	40	30	43	4	41	28	24	19	14	31	−10	23	−21	31
Bismarck	−29	30	−29	21	− 8	6	16	2	23	12	40	4	44	29	43	31	26	20	13	28	2	23	−29	31
Bottineau	−40	30†	−35	1†	− 6	5	9	3	10	12	35	4	40	5	39	31	24	30	5	28	− 1	22	−34	31
Bowbells	−36	10†	−35	21	− 8	5†	9	3	21	9†	34[d]	3†	40	5†	40	28	19	30	15	31	− 2	22	−37	31
Bowman	−37	30	−37	20	−12	6	11	7	21	22	34	2	38	5	36	31	11	19	8	31	−16	24	−23	31
Buford	−38	13†	−38	20	− 5	6	13	3	25	12	34	2	40	5	41	14	.....	.....	.....	.....	.....	.....	.....	.....
Cando	−43[b]	30	−35	20†	− 5[c]	5†	6[c]	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carson	−38	30	−36	20	−14	6	10	7	23	12	36	2	40	8†	40	15†	20[a]	19	10	31	− 8	23	−24	31
Colgate	−34	30	−28	20†	− 5	6	12	8	18	12	35	7†	39	1	39	8	17	20	21	3	7	23†	−28	31
Crosby	−33	31	−32	20	− 4	5	13[f]	26	21	12	35	3	42	5	43	13	23	19	24	22†	3	23	−34	31
Devils Lake	−36	30	−30	20	− 5	6	14	8	15	12	39	29	40	10	41	30	27	9	20	27	6	29	−27	31
Dickinson	−34	12†	−37	20	−12	6	13	4	22	17	35	4	40	5	41	28	17	19	13	31	− 5	23	−30	31
Donnybrook	−32	11†	−32	20	− 6	5	13	2	16	12	31[a]	4	40[b]	10†	41	12	22[a]	9†	15	31	4[a]	22	−33[c]	31
Dunseith	−36	30†	−35	21	− 9	5	2	3	6	12	35	3†	40	16†	38[a]	30	24	9	.....	.....	− 2	22†	−31	31
Eckman	−35	30†	−36	21	− 6	6	2	3	12	12	30	3	38	9†	39	11	18	9†	15	28	2	22†	−39[a]	31
Edgeley	−30	11	−31	21	−11	6	11	2	20	12	34	7	39	11	42	26†	19	20	14	27	1	10	−17	24†
Ellendale	−28	30	−35	21	− 6	6	15	8	24	12	38	7	42	10	43	26	21	20	17	27	3	9	−25	31
Fessenden	−34	30	−32	21	− 4	5†	10	4	15	12	35	4†	36	10	38	30	19	20	15	27	− 6	10	−34	31
Forman	−28[b]	30	−26	21	− 3	10	15[a]	2	24	12	28[a]	30	40	5	42	31	20	20	23[a]	29	5	23	−18[c]	24
Fullerton	−30	30	−33	21	− 8	6	14	2	23	12	37	7†	38	29	45	29	20	20	19	27	1	10	−19	24
Garrison	−33	30	−33	21	− 7	6	11	3	18	12	36	4†	42	5	41	30	23	9†	12	31	− 1	23	−32[a]	31
Grafton	−38	30	−30	3†	− 8[a]	6	9	3†	16	12	38	3	40	1†	38	11	20	20	22[a]	26†	8[b]	22†	− 25	31
Grand Forks	−35	30	−28	20	− 3	6	13	8	19	12	38	2	43	1	44	11	23	20	24	25	10	29	−30	31
Grand Rapids	−32	30	−30	21	− 8	6	13	2	20	12	30	7	40	1	42	26†	13	20	22	24	− 7	10	−28[a]	31
Granville	−32	30	−33	21	− 5[a]	5†	12	2	13	14	35	3	42	7†	41	9	20	20	15	28	5	9†	−36[a]	31
Hannah	−43	30	−38	3	−10	6	9	3	9	12	39	7	38	29	35	11	26[b]	3	12	27	− 2	23	−36[a]	30
Hansboro	−38	26	−35	21	−10	5	3[c]	8	10[a]	12	31[a]	2	35[b]	7	34[b]	11	16	20	13[a]	28	0	23	−35[a]	31
Hettinger	−33	30	−35	20	− 8	6	15	2	24	2	36	4	38	5	38	31	23	15	8	31	−10	24	−22	24
Hillsboro	−33	30	−26	20	− 4	6	13	3†	17	12	39	7	42	1	46	8†	22	20	25	3†	8	23	−22	31
Howard	−38	30	−39	20	− 9	6	10	7†	17	12	32	3	34	6	37	28	20	19†	8	30	− 3	25	−36	31
Jamestown	−41	11	−32	4	− 4	6†	13	3	20	12	36	7	39	1	43	11	19	20	17	26	− 2	10	−21	31
Lakota	−38	30	−36	19	− 2	5	8	2	15[d]	11	36[b]	3†	37[b]	28	36	7	18[d]	20	15[f]	27	3[a]	29†	−29[c]	31
Lamoine	−38	30	−35	21	− 4	5	9	3	13	12	31	30	38	5†	36	30†	19	20	4	28	0	23	−31[b]	31
Langdon	−44	30	−38	20	−10	6†	3	8	13	12	36	4†	38	29	37	11	22	10	15	25†	2	23†	−34	31
Larimore	−35[a]	30	−30	20	− 5	6	12	3†	17	12	38	7†	42	6	44	11†	22	20	24	25	9	30	−25	31
Linton	−29	30	.....	.....	.....	.....	8[c]	7	16[b]	12	33	2	40	1†	38	30	20	19	.....	.....	.....	.....	.....	.....
Lisbon	−33	30	−26	20	− 3	6	12	2†	24	10	38	7	43	18	41	11†	15	20	19	28	6	25	−18	24†
McHenry	−37	30	−33	20	− 5	6	10	23	13	12	36	29†	42	2	42	20	22	20†	14	27	0	10	−27	31
McKinney	−32[a]	26†	−30	21	− 4	5	10	2	14	12	28	3	36	16	40	31	20	9†	10	28	0	22	−33[a]	29†
McLeod	−32	30	−28	22	− 4	10	13	8†	21	12	38	30	42	1†	43	29†	19	20	26	3†	5	23	−18	31
Maddock	−37	30	−32	20†	− 3	6	12	2†	11	12	33	29	36	10	38	30	16	20	17	27	1	10	−33	31
Mandan	−30	30†	−32	21	− 8	6	15	2	23	12	38	4	43	29	44	31	22	20	14	28	− 3	23	−17	31
Manfred	−31	30†	−30	20†	− 2	5†	12	3	22	12	37	30	40[a]	10	41	30	23	20	18	26	0	10	−33	31
Marmarth	−38	30	−38[a]	20	−15	6	10	7	23[a]	17	37	2	40	4†	39[a]	31	19	19	14	31	−18	23	−23[a]	31
Marstonmoor	.....	.....	.....	.....	.....	.....	11[c]	2†	15	12	27[a]	30	34	5	35	6†	11	29	10[a]	27	−12	10	.....	.....
Mayville	−35	30	−27	3†	− 4	6	11	8	18	12	38	29	42	6†	45[a]	9†	21	20	24	25	5	26	−22	31
Melville	−32	30	−30	3	0[h]	5†	14[c]	2	16[j]	12	40[l]	29	42[g]	29	42[f]	13†	26[c]	29	20[g]	28	− 2	10	−34[c]	31
Minot	−33	31	−33	21	− 8	7	10	2	14	12	29	3	37	16†	36	31	17	30	6	28	− 1	22	−41	31
Minto	−39	30	−30	4	− 7	6	10[h]	3†	17[f]	12	39	22	42	1	40	11	24[a]	21	24	25†	9	30	−23	31
Mott	−36	30†	−37	19	5	8	10	3	23	22	32	2	43	4†	42	30	15	18	16	27	− 9	23	−24	25
Napoleon	−38	30	−32	20	−11	6	11	3†	17	12	30	30	38	29	39	30	18	20	8	28	− 1	24	−23	31
New England	.....	.....	.....	.....	.....	.....	14	2	27	17	38	2	42	5	43	30†	18	19	15	31	.....	.....	−22[j]	26†
New Salem	−35	30	−35	20	− 8	5	10	2†	19	12	38	30	38	10	38	30	21	19	11	31	− 4	23	−25	31
Orange	−33	30	−34	20	−11	6	15	2†	23	22	34	2	35	5	36	31	14	19	17	31	−13	24	−26	24
Park River	−35[b]	30	−30	20	− 2[a]	6	12[b]	9	17	12	39	3	37	12	36	31	26[d]	20	18[a]	27	5[a]	22	−24[b]	31
Pembina	−38	30	−34	4	−10	6	14	8	18	12	42	2†	42	29	41	30	28	9	28	18	6	29	−32	31
Sanish	−35	31	−34	21	.....	.....	15	4	25[a]	12	40	28†	.....	.....	43	6	26	19	11	31	.....	.....	.....	.....
Steele	−38	31	−32	21	− 6	6	15	2	28	11	36	30	46[b]	25	40	9	22[a]	30	10	27	8	26	−34	31
Taylor	−40	11	−34[f]	20	−10	7	12	2	25	17	39	2	42	8	42[b]	28	28[c]	19	14[a]	31	− 4	23	−25	31
Towner	−35	30	−31	4†	− 3	5†	4	3	15	12	34	3	41	9†	36	30	22	20	17	28	0	23†	−38	31
Valley City	−30[i]	30	.....	.....	− 4	6	11	2	18	12	39	29	45	1†	46	30†	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	−34	30†	−27	4	−10	10	12	23	21	12	38	7	43	1†	42	29†	17	20	22	31	6	23	−17	31
Walhalla	−43[a]	26	−35	20	−10[i]	6	0	8	15	12	35	22	40	27	37	28	25	20	19	25†	6	22†	−26	31
Washburn	−34	30	−30	20	− 6	6	11	2	19	11	38	4	45	26†	44	30	26	19†	.....	.....	.....	.....	.....	.....
Westhope	−40[a]	30	−34	3†	− 5	5	11	3	16[a]	12	35	3	42	29	34	4	20	19†	10	28	1	22	−35	31
Williston	−33	13	−33	20	− 2	6	14	3	24	12	36	3	44	5	43	7	22	19	13	31	2	24	−30	31
Willow City	−40	30	−37	21	− 5	5	10	2†	13	12	32	3†	36[a]	10	36	30	20	20	15	28	− 1	10†	− 37	31
Zap	−37	31	−36	20	−12	6	10	3†	19	12	32	4	36	5	40	13	22	19	8	31	− 6	23	−34	31
Moorhead, Minn	−30	30	−23	20	− 6	10	14	23	20	12	40	7	46	1	44	29	22	20	24	31	8	23	−20	31

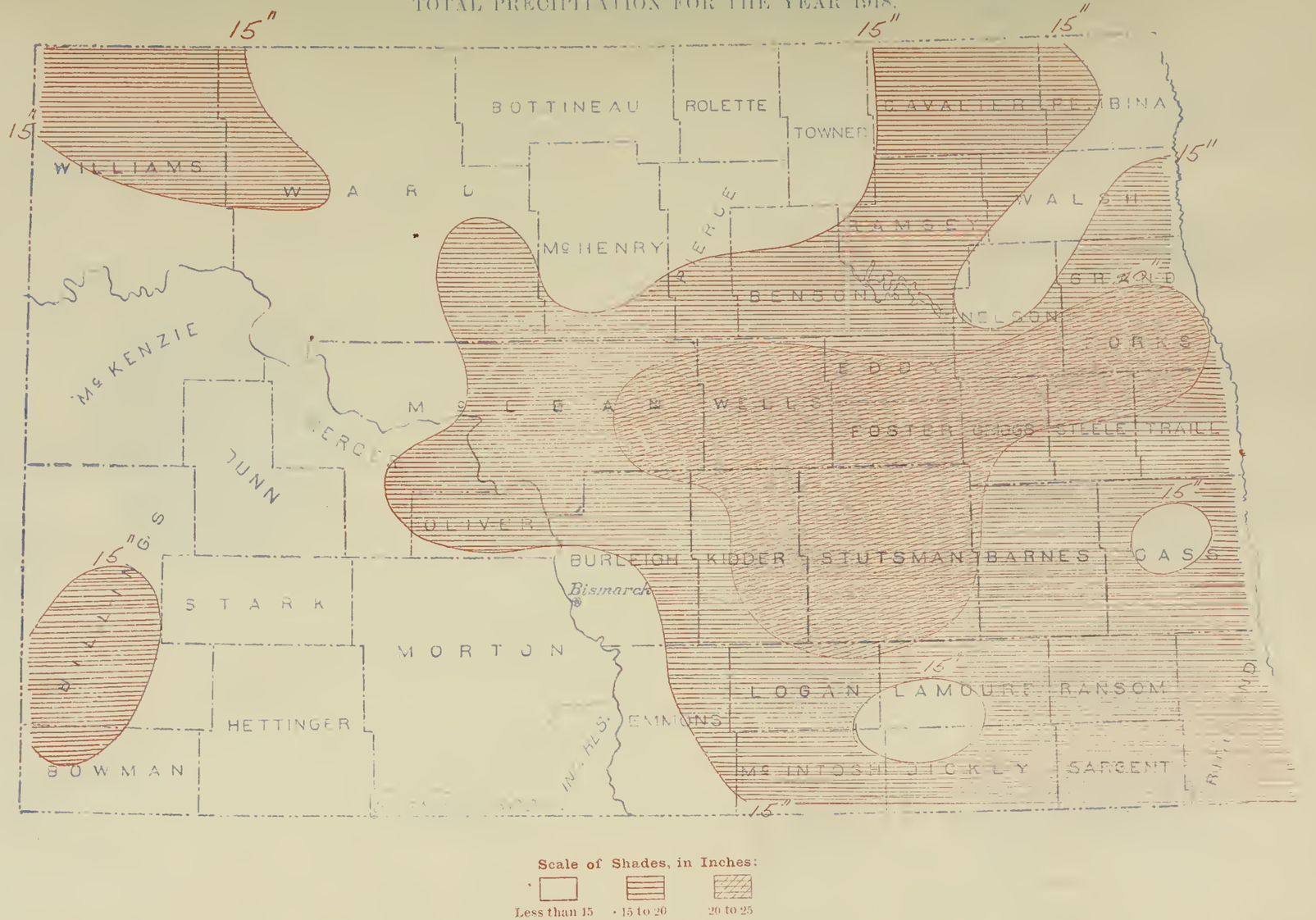
† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days missing, etc.

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



TOTAL PRECIPITATION FOR THE YEAR 1918.



Scale of Shades, in Inches:

Less than 15 · 15 to 20 · 20 to 25

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Amenia	E. R. Carley.	Energy	N. W. Solenberger.	Larimore	R. A. Gray.	New Salem	J. Christiansen.
Ashley	R. C. Miles.	Epping	M. E. Uggen.	Linton	Fr. Sailer.	Orange	T. F. Young.
Beach	D. J. Steiner.	Fessenden	G. T. Seymour.	Lisbon	W. S. Adams.	Park River	J. P. George.
Berthold Agency	Chas. L. Hall.	Forman	R. T. Williams.	McClusky	Edw. Tapley.	Parshall	J. A. Johnson.
Bierman	E. F. Biermann.	Fryburg	Verne King.	McHenry	P. E. Trudeau.	Pembina	C. W. Shumaker.
Bottineau	H. F. Steinmeir.	Fullerton	F. O. Alin.	McKinney	N. P. Swenson.	Power	J. A. Power.
Bowbells	G. H. Phelps.	Garrison	G. L. Robinson.	McLeod	R. D. Markland.	Powers Lake	Chas. Frank.
Bowman	M. W. Madsen.	Grafton	A. R. T. Wylie.	Maddock	F. P. Cowing.	Sanish	E. H. Senechal.
Buford	P. Elmore.	Grand Forks	H. E. Simpson.	Mandan	N. G. P. F. Sta.	Selfridge	H. S. Solenberger.
Cando	J. M. Russell.	Grand Rapids	G. H. Leick.	Manfred	P. B. Anderson.	Searing	T. C. Taylor.
Carson	J. W. Evens.	Granville	W. A. Christianson.	Marmarth	S. P. Grane.	Steele	H. S. Wood.
Colgate	James McCann.	Hannah	J. Moffatt.	Marstonmoor	Grace Williamson.	Taylor	H. Leutz.
Cooperstown	S. Friswold.	Hansboro	C. E. Blackorby.	Mayville	W. C. Gould.	Towner	B. Bagley.
Crosby	John Jensen.	Hettinger	U. J. Downey.	Melville	J. P. Kidder.	Valley City	R. Bruns.
Dickinson	J. C. Thysell.	Hillsboro	F. E. Mayall.	Milnor	Hj. Edman.	Wahpeton	F. E. Smith.
Donnybrook	E. H. Wolsey.	Howard	C. P. Amsbaugh.	Minot	W. I. Faris.	Walhalla	I. DeL. Lee.
Dunn Center	W. H. Mellow.	Jamestown	S. Calvelage.	Minto	C. M. Evans.	Washburn	J. T. McCulloch.
Dunseith	J. G. Lamont.	Lakota	C. R. Pettes.	Mott	O. H. Opland.	Watford	M. E. Johnson.
Eckman	J. Nussbaum.	Lamoine	E. V. Virgin.	Napoleon	C. J. Hoof.	Westhope	W. A. Meddaugh.
Edgeley	O. A. Thompson.	Langdon	R. T. Burke.	New England	R. S. Lowis.	Willow City	M. A. Ostby.
						Zap	H. A. Crandall.

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Center ‖	W. T. Maher.	Fullerton ‖	F. O. Alin.	Mandan ‖	N. D. Ind. Tel. Co.	University ‖	H. E. Simpson.
Crystal* ‖	Postmaster.	Grafton* ‖	Postmaster.	Marion ‖	Postmaster.	Valley City § ‖	J. E. Switzer.
Eckman*	Postmaster.	Grand Forks §	R. B. Griffith Co.	Minot† ‖	Postmaster.	Wahpeton ‖	Postmaster.
Edgeley† ‖	Postmaster.	Langdon ‖	R. T. Burke.	Neche* ‖	Postmaster.	Bismarck† ‖	U. S. Weather Bur.
Edinburg ‖	Postmaster.	Lankin* ‖	Postmaster.	Northwood ‖ §	G. P. Johnson.	Devils Lake† ‖	U. S. Weather Bur.
Englevale* ‖	Postmaster.	Lidgerwood § ‖	M. O. Movius.	Oakes† ‖	Postmaster.	Ellendale† ‖	U. S. Weather Bur.
Fargo ‖	Postmaster.	Lisbon ‖ §	Postmaster.	Rugby ‖	Postmaster.	Williston† ‖	U. S. Weather Bur.

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

MAR 29

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JANUARY, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE

Departure of the Mean Temperature from the Normal, January, 1919.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JANUARY, 1919. No. 1.

GENERAL SUMMARY.

January, 1919, was the warmest and one of the driest of record since the State climatological service was established in 1892. Although severe cold prevailed for the first three days of the month and about normal conditions for the remainder of the first week, the unusually mild weather for the rest of the month resulted in a mean temperature of 18.7°, which is 1.7° higher than the previous highest mean for January of 17.0° in 1908. The precipitation, which was practically all in the form of snow, was the third lightest of record for January. The snow cover was general and fairly heavy in many sections at the beginning of the month, but disappeared by the 20th in most western and southern localities, and at the end of the month the snow-covered areas were confined mostly to the northeastern and extreme northern portions. Much outdoor work was accomplished under these favorable conditions, and advantage was taken of the mild weather to allow livestock to graze and relieve the shortage of feeds and roughage. In the southwestern portion some field work, such as plowing and dragging, and even some wheat seeding, was done.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.00 inches. The highest was 30.75 inches at Bismarck on the 3d; the lowest was 29.39 inches at Williston on the 17th.

TEMPERATURE.

The mean temperature for the State was 18.7°, or 13.8° above the normal, and 18.2° higher than the mean for January, 1918. The highest mean reported was 27.8° at Dickinson, Stark County; the lowest was 9.1° at Langdon, Cavalier County. The highest temperature reported was 66° at Beach, Golden Valley County, on the 25th; the lowest was -44° at Steele, Kidder County, on the 1st. The greatest daily range of temperature was 69° at Bowbells, Burke County, on the 3d. The greatest monthly range was 101° at Beach, Golden Valley County; the least was 71° at Crosby, Divide County. As usual during the winter the southwestern portion was about 15° warmer than the northeastern portion, but the departures above the normal were considerably greater in the western than the eastern portion.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 84 per cent, the average at 7 a. m. being 86 per cent, and at 7 p. m. 82 per cent.

PRECIPITATION.

The average precipitation for the State was 0.17 inch, or 0.37 inch below the normal, and 0.28 inch less than the average for January, 1918. The greatest monthly amount reported was 0.66 inch at Granville, McHenry County; six stations reported no precipitation. The greatest amount recorded in any twenty-four consecutive hours was 0.40 inch at Granville, McHenry County, on the 6th, and at Hansboro, Towner County, on the 18th. The average snowfall was 1.7 inches. Practically all of the precipitation was in the form of snow, and nearly all of it fell during the first week of the month. The heavier falls occurred in scattered areas in the eastern half of the State. The average number of days with 0.01 inch or more of precipitation was 2.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 10.3 miles. The greatest wind movement was 10,513 miles at Ellendale, an average of 14.1 miles per hour; the least was 6,200 miles at Williston, an average of 8.3 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 52 miles per hour from the northwest at Ellendale on the 16th.

SUNSHINE AND CLOUDINESS.

The amount of sunshine was somewhat above the normal; the average number of clear days was 17, partly cloudy days 8, and cloudy days 6.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−1.6	58	−52	0.79	+0.25	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.

Climatological Data for January, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	15.4	+10.9	42	30	−36	3	42	0.37	−0.10	0.22	3.8	3	17	10	4	n.	E. R. Carley.
Ashley	McIntosh	2,001	22	21.8	+14.3	47	20	−34	3	31	0.20	−0.35	0.20	2.0	1	24	4	3	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	25.9	+16.6	66	25	−35	3	64	0.20	−0.44	0.13	1.7	3	20	7	4	nw.	D. J. Steiner.
Berthold Agency††	McLean	2,082	25	24.6[b]	+17.1	60	19	−39[b]	3	65°	T.	−0.41	T.	T.	0	22	2	7	nw.	C. L. Hall.
Bierman	Slope		3	27.6	.....	57	23	−28	2	53	0.15	.....	0.00	1.5	3	20	4	7	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	45	24.4	+17.7	52	19	−35	1	59	0.09	−0.45	0.05	0.9	4	11	14	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	13.8	+14.5	42	19	−36	3	36	0.28	−0.17	0.13	.....	6	11	9	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	19.0	.....	42	15†	−39	2	69	0.00	.....	0.00	0	0	22	1	8	.....	G. H. Phelps.
Bowman	Bowman	.....	5	27.0	.....	60	23	−34	3	61	0.04	.....	0.02	1.2	2	16	10	5	w.	M. W. Madsen.
Buford	Williams	1,944	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Elmore.
Cando	Towner	1,488	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	7	25.2	.....	60	24	−36	3	61	0.10	.....	0.05	1.0	2	20	10	1	nw.	J. W. Evens.
Colgate	Steele	1,177	5	11.9	.....	40	17	−38	3	36	0.60	.....	0.30	6.0	3	19	4	8	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	T.	−0.51	T.	T.	0	25	6	0	nw.	S. Friswold.
Crosby	Divide	1,954	12	19.5	+17.8	39	17	−32	3	58	0.15	−0.42	0.10	1.5	2	5	19	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	14.4	+14.1	44	19	−34	3	43	0.22	−0.38	0.15	2.9	4	13	6	12	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	27.8	+17.5	59	23	−31	2†	60	T.	−0.42	T.	T.	0	19	6	6	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	20	22.3	+18.9	49	21	−32	3	61	T.	−0.40	T.	T.	0	6	22	3	sw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	.....	.....	57[f]	23	.....	.....	.....	0.15	.....	0.15	1.0	1	19	5	7	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	23	15.6	+14.1	44	9†	−35	3	48	T.	−0.48	T.	T.	0	19	5	7	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	15.8	+15.2	48	24	−41	3	68	T.	−0.61	T.	0	0	22	5	4	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	20.8	+13.0	46	29	−31	3	33	0.10	−0.20	0.05	.....	5	5	16	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	20.8	+10.1	48	29	−33	3	44	0.06	−0.60	0.05	0.6	3	10	10	11	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.07	.....	0.02	.....	4	6	22	3	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	0.20	−0.39	0.20	2.0	1	25	4	2	nw.	M. E. Uggen.
Fessenden	Wells	1,610	7	16.3	.....	42	20†	−41	3	47	0.25	.....	0.10	2.5	3	19	7	5	sw.	G. T. Seymour.
Forman	Sargent	1,249	27	22.4	+15.3	44	29	.....	.....	.....	0.10	−0.46	0.05	1.0	2	21	8	2	w.	R. P. Williams.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	1.0	1	19	8	4	w.	Verne King.
Fullerton	Dickey	1,439	21	19.6	+11.8	46	29	−34	3	31	0.15	−0.63	0.08	1.5	2	15	10	6	s.	F. O. Alin.
Garrison	McLean	1,901	24	22.4	+15.9	52	19†	−33	3	54	0.05	−0.42	0.05	0.5	1	20	5	6	nw.	G. L. Robinson.
Grafton	Walsh	827	27	12.4	+11.5	40	17	−36	3	37	0.23	−0.38	0.11	2.3	3	22	4	5	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	27	12.1	+ 8.5	38	17	−36	1†	37	0.45	−0.11	0.14	5.2	4	15	6	10	w.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	19.4	.....	48	26	−40[a]	3†	61[a]	0.05	.....	0.03	0.8	2	21	3	7	w.	G. E. Pooley.
Granville	McHenry	1,504	12	17.8	+16.1	43	19†	−40	1	63	0.66	+0.25	0.40	.....	7	9	13	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	10.4	+12.1	34	17†	−38	3	36	T.	−0.71	T.	T.	0	18	6	7	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	12.4[c]	+14.7	42[c]	8	−37[c]	3	47°	0.53	−0.36	0.40	5.7	2	.....	.....	.....	sw.	C. E. Blaekorby.
Hettinger	Adams	2,253	11	26.4	+13.9	62	23	−32	3	60	T.	−0.36	T.	T.	0	26	4	1	nw.	U. J. Downey.
Hillsboro	Traill	901	13	13.9	+10.0	37	17†	−36	3	35	0.25	−0.50	0.10	2.5	3	10	17	4	n.	F. E. Mayall.
Howard	Williams	2,275	12	19.8	+18.3	57	24	−36	2	60	T.	−0.82	T.	T.	0	17	11	3	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	20.4	+13.9	42	26	−32	3	42	0.55	−0.10	0.20	5.5	4	22	0	9	nw.	S. Calvelage.
Lakota	Nelson	1,579	18	12.0	+13.4	35	17†	−38	3	33	0.47	−0.20	0.30	8.5	4	24	5	2	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	16.4	+12.4	41	19	−39	3	54	0.10	−0.51	0.10	1.0	1	19	5	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	9.1	+11.8	36	17†	−42	3	43	0.25	−0.36	0.20	2.5	2	17	10	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	13.4	+10.8	40	17†	−36	3	42	0.32	−0.37	0.10	3.2	5	13	4	14	s.	G. G. Graham.
Linton	Emmons	1,711	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	15	18.4	+12.5	44	13†	−35	3	41	0.00	−0.72	0.00	0	0	22	8	1	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	15	16	0	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	12.5	.....	39	19	−40	3	43	0.15	.....	0.04	1.5	6	21	6	4	nw.	P. E. Trudeau.
McKinney	Renville	1,640	25	20.6	+17.4	45	23†	−32	2†	58	0.10	−0.29	0.10	1.0	1	12	15	4	sw.	N. P. Swenson.
McLeod	Ransom	1,075	7	18.0	.....	54	9	−35	3	41	0.30	.....	0.20	3.0	2	16	5	10	nw.	R. D. Markland.
Maddock	Benson	1,604	4	14.6	.....	43	16	−38	3	41	0.36	.....	0.36	.....	1	17	5	9	nw.	F. P. Cowing.
Mandan	Morton	1,644	5	22.0	.....	50	20†	−36	1	59	0.08	.....	0.06	1.0	3	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	16.4	+12.4	40	23	−37	3	50	0.07	−0.60	0.04	1.0	2	16	7	8	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	25.2	+14.9	56	23	−30	3	55	0.09	−0.19	0.08	1.2	2	15	8	8	w.	S. P. Grane.
Marstonmoor	Stutsman	1,945	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grace Williamson.
Mayville	Traill	975	23	15.8	+ 9.7	40	17	−36	3	42	0.16	−0.34	0.07	.....	5	18	3	10	nw.	W. C. Gould.
Melville	Foster	1,590	21	17.5[k]	+11.9	45[k]	23†	−42[k]	3	28[k]	0.00	−0.38	0.00	0	0	.....	.....	.....	.....	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	16	8	7	nw.	Hj. Edman.
Minot	Ward	1,557	23	19.0	+14.0	48	20	−40	3	60	0.22	−0.24	0.20	2.2	2	23	3	5	nw.	W. I. Faris.
Minto	Walsh	820	26	13.1	+11.3	39	24†	−33	1†	33	0.14	−0.37	0.06	.....	3	19	5	7	n.	C. M. Evans.
Mott	Hettinger	2,424	12	25.0	+17.5	62	21	−27	2	43	0.50	−0.42	0.25	5.0	3	12	12	7	w.	O. H. Opland.
Napoleon	Logan	1,955	27	20.6	+14.7	45	19	−40	3	37	0.05	−0.43	0.05	0.5	1	20	3	8	sw.	C. J. Hoof.
New England	Hettinger	2,400	25	25.4	+12.1	56[a]	23	−29	3	57[a]	0.02	−0.44	0.02	0.2	1	23	3	5	nw.	R. S. Lowis.
New Salem	Morton	2,163	14	24.0	+16.3	53	19	−32	2	61	0.01	−0.66	0.01	T.	1	17	10	4	nw.	J. Christiansen.
Orange ††	Adams	2,586	10	27.1	+17.9	61	23	−28	1	64	0.00	−0.36	0.00	0	0	7	21	3	nw.	T. F. Young.
Park River	Walsh	998	15	14.8[b]	+13.0	40[b]	17†	−33[b]	3	42	0.15	−0.32	0.08	1.5	2	.....	.....	.....	nw.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	24	6	1	nw.	J. A. Johnson.
Pembina	Pembina	789	45	9.4	+12.3	34	19†	−38	3	50	0.31	−0.34	0.20	2.5	4	6	20	5	sw.	C. W. Shumaker.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	0.45	−0.18	0.10	4.5	6	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	18	7	6	sw.	C. Frank.
Sanish	Mountrail	2,260	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	−0.41	0.12	2.0	1	19	10	2	nw.	H. F. Solenberger.
Steele	Kidder	1,857	22	22.8	+15.2	54	19†	−44	1	42	0.40	−0.06	0.20	4.0	5	16	4	11	sw.	H. S. Wood.
Taylor	Stark	2,493	3	23.6[a]	.....	42[a]	24	−31	3	57	0.33	.....	0.24	.....	2	.....	.....	.....	sw.	H. Leutz.
Towner	McHenry	1,482	17	15.8	+13.2	44	23	−42	3	65	0.40	−0.08	0.20	4.0	3	17	8	6	nw.	B. Bagley.
Valley City	Barnes	1,245	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bruns.
Wahpeton	Richland	962	25	18.2	+10.4	43	21	−36	3	38	0.26	−0.24	0.26	4.0	1	22	0	9	nw.	F. E. Smith.
Walhalla	Pembina	966	12	14.0	+14.3	45	19	−35	3	41	0.50	−0.35	0.20	5.0	4	26	2	3	n.	Ivan Lee.
Washburn	McLean	1,734	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. McCulloch.
Westhope	Bottineau	1,508	13	15.8	+17.2	40	19	−37	3	63	T.	−0.45	T.	T.	0	17	9	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	24.4	+17.9	51	23	−30	2	56	0.07	−0.51	0.04	0.6	4	8	14	9	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	12.0	+11.7	43	23	−40	3	46	0.50	−0.06	0.20	5.0	3	.....	.....	.....	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	23.1	+16.0	58	19†	−38	3	62	T.	−0.38	T.	T.	0	16	9	6	nw.	H. A. Crandall.
Moorhead, Minn	Clay	935	38	15.7	+13.0	41	17	−35	3	31	0.21	−0.50	0.08	0.6	5	15	9	7	nw.	U. S. Weather Bureau.
Averages				18.7	+13.8	66	25	−44	1	69	0.17	−0.37	0.40	1.7	2	17	8	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.

Daily Precipitation for January, 1919.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red					.10	.05	.22																T.									0.37
Ashley	Missouri			.20																													0.20
Beach	Lit. Missouri	.13		.05	T.		.02															T.											0.20
Berthold Agency	Missouri			T.										T.								T.											T.
Bierman	Lit. Missouri	.05		.05	.05		T.																										0.15
Bismarck ***	Missouri	T.		.03	.02	.02	.02	T.						T.								T.											0.09
Bottineau	Mouse			.03		.02	.13	T.						.05			T.		.04							.01							0.28
Bowbells ‖ ‖	Mouse																																0.00
Bowman	Grand			.02	.02			T.																									0.04
Buford	Missouri																																.....
Cando	Sheyenne																																.....
Carson	Heart			.05	.05																												0.10
Colgate	Sheyenne						.30						.20									.10											0.60
Cooperstown	Sheyenne					T.		T.																									T.
Crosby	Mouse			.10																		.05											0.15
Devils Lake ***	Sheyenne		T.	.05		.01	.15												.01			T		T.									0.22
Dickinson	Heart	T.																				T.											T.
Donnybrook	Mouse																					T.											T.
Dunn Center	Knife		.15			T.	T.															T.											0.15
Dunseith	Mouse			T.																		T.											T.
Eckman	Mouse						T.										T.		T.			T.											T.
Edgeley	James	.05		.02	.01		.01																.01										0.10
Ellendale ***	James	T.		.01	.04	T	T.							T.								T.	.01										0.06
Energy	Missouri	T.		T.	.02	T.	.02															.01	.02										0.07
Epping	Missouri	.20											T.									T.											0.20
Fessenden	James	.10	.10							T.									T.			T.	.05										0.25
Forman	Sheyenne			.05	.05																												0.10
Fryburg	Lit. Missouri			.10																													0.10
Fullerton	James			.08	T.	T.	T.														T.	T.	.07										0.15
Garrison	Missouri				T.		T.															.05											0.05
Grafton	Red					.08		.04											.11														0.23
Grand Forks ***	Red	T.		T.	.10	.10	T.						T.	T.				T.	.11	T.		T.	.14	T.									0.45
Grand Rapids	James							.02															.03										0.05
Granville	Mouse	T.	T.	T.	.02	.01	.40	T.						T.	.03		.04					.06	.10										0.66
Hannah	Pembina					T.	T.																										T.
Hansboro	Red			.13															.40														0.53
Hettinger	Grand	T.		T.	T.																												T.
Hillsboro	Red				.10		.10	.05										T.															0.25
Howard	Missouri												T.																				T.
Jamestown	James			.20		.20	.05																.10										0.55
Lakota	Sheyenne			.30			.10	.05		.02																							0.47
Lamoine	Missouri			T.			T.												T.				.10										0.10
Langdon	Pembina																		.20			.05	T.										0.25
Larimore	Red			.10			.05	.05											.05					.07									0.32
Linton	Missouri																																.....
Lisbon	Sheyenne																																0.00
McClusky	Missouri																																0.00
McHenry	James	T.	T.	.04		.02	.04										.02						.01					.02					0.15
McKinney	Mouse			.10		T.	T.	T.															T.										0.10
McLeod	Sheyenne			T.		T.	.10	.20									T.						T.										0.30
Maddock	Sheyenne																							.36									0.36
Mandan ‖ ‖	Missouri				.06	.01																	.01										0.08
Manfred	Sheyenne	T.			T.	.04	T.											T.				T.	.03										0.07
Marmarth	Lit. Missouri			.08	.01																												0.09
Marstonmoor	James																																.....
Mayville	Red		.01		.03		.07	.04														.01	T.										0.16
Melville	James																																0.00
Milnor	Red	T.				T.	T.																										T.
Minot	Mouse					.20																	.02										0.22
Minto	Red				.05	.06	.03																T.										0.14
Mott	Cannon Ball	.14		.25	.11																												0.50
Napoleon	Missouri																						.05										0.05
New England ‖ ‖	Cannon Ball				.02		T.																										0.02
New Salem	Heart	T.		T.			T.	T.						T.								.01											0.01
Orange	Cannon Ball																																.....
Park River	Red					.07													.08														0.15
Parshall	Missouri																																0.00
Pembina ‖ ‖	Red						.05											.20						.04					.02			0.31
Power	Missouri	.05	.10	T.	.05	.05	.10	.10																									0.45
Powers Lake	Sheyenne		T.										T.				.20																0.20
Sanish	Missouri																																.....
Selfridge	Missouri				.12																												0.12
Steele	Missouri				.20	.05		.05														.05	.05										0.40
Taylor	Heart	T.		.09	T.		.24															T.	T.										0.33
Towner	Mouse	.20				.10	.10																										0.40
Valley City	Sheyenne																																.....
Wahpeton	Red				.26																												0.26
Walhalla	Pembina			.10			.10	.10											.20														0.50
Washburn	Missouri																																.....
Westhope	Mouse						T.																T.										T.
Williston ***	Missouri	.04		.01			T.							.01				T.				.01	T.										0.07
Willow City	Mouse			.10		.20	.20										T.		T.			T.											0.50
Zap	Knife	T.																				T.	T.										T.
Moorhead, Minn ***	Red	.02		.06			.08										.01						.04										0.21
																																	.....
																																	.....
																																	.....
																																	.....

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	− 7	− 8	− 9	20	29	11	16	36	34	37	25	23	29	29	38	36	27	38	40	40	32	30	32	30	35	40	36	34	36	42	20	27.5
	Minimum	−27	−29	−36	−12	− 1	− 6	− 8	− 2	− 3	− 5	7	10	14	7	4	6	4	4	14	23	11	15	24	11	15	23	5	10	10	12	0	3.2
Ashley	Maximum	0	−11	6	25	12	29	28	37	31	35	22	32	31	29	34	35	42	43	45	47	37	30	42	43	40	37	35	41	44	39	29	31.3
	Minimum	−27	−26	−34	− 6	−14	12	6	15	9	21	10	20	20	15	17	25	18	27	24	23	18	22	26	28	25	28	25	10	26	12	10	12.4
Beach	Maximum	− 5	−10	29	24	31	25	31	45	40	40	40	37	35	36	41	39	37	50	55	53	34	45	47	50	66	44	43	42	41	38	35	37.4
	Minimum	−12	−33	−35	3	6	9	6	26	18	14	14	15	24	15	20	20	21	34	21	25	26	24	20	26	20	24	15	18	27	15	19	14.4
Berthold Agency	Maximum	− 2	− 5	26	28	31	33	33	40	....	42	....	42	41	42	49	46	48	40	60	50	30	35	57	45	41	45	42	50	47	37	27	[b]38.2
	Minimum	−35	−29	−39	3	− 8	14	14	18	....	....	10	18	22	8	8	30	22	20	26	17	18	21	28	30	24	11	23	10	26	4	8	[b]11.1
Bismarck	Maximum	0	−13	28	27	31	32	34	39	39	38	23	41	34	35	45	39	47	42	52	50	30	32	52	47	43	48	35	46	44	39	27	35.7
	Minimum	−35	−28	−31	−13	− 9	17	13	23	12	17	14	21	23	18	21	22	22	27	28	23	16	18	29	34	24	18	17	16	22	14	12	13.1
Bottineau	Maximum	− 5	− 8	0	21	2	17	23	33	27	33	25	27	27	22	28	30	34	27	42	34	33	24	33	37	35	31	30	23	34	28	16	24.5
	Minimum	−29	−29	−36	− 3	−18	0	− 8	11	− 2	11	6	11	12	4	4	14	11	17	19	12	13	7	13	23	14	2	13	− 3	16	− 2	− 3	3.2
Bowbells §§	Maximum	−10	− 2	31	29	25	29	30	32	34	39	37	37	37	33	42	42	37	35	37	39	25	37	35	38	36	35	36	37	33	31	31	31.8
	Minimum	−32	−39	−38	− 2	4	2	3	4	10	17	2	2	12	2	7	18	10	12	10	21	19	15	22	25	18	18	15	16	11	11	− 2	6.2
Carson	Maximum	0	−10	25	25	30	30	25	35	38	38	30	38	34	40	45	37	45	55	52	53	36	44	58	60	55	50	36	50	45	38	35	37.8
	Minimum	−25	−30	−36	0	− 2	15	5	20	12	15	16	20	20	15	25	22	20	32	22	23	20	20	20	20	20	15	20	15	30	12	10	12.6
Crosby	Maximum	− 3	−11	26	26	29	30	27	35	31	31	21	34	24	22	30	32	39	30	36	35	31	30	38	38	35	32	34	34	34	22	24	28.3
	Minimum	−19	−30	−32	− 3	− 1	16	8	25	13	14	13	12	10	8	14	19	21	20	20	22	19	17	25	32	22	14	18	11	14	14	6	10.7
Devils Lake	Maximum	− 7	−15	9	8	6	14	28	32	29	27	18	31	31	22	34	40	38	23	44	31	30	19	34	40	30	33	28	24	36	18	14	24.2
	Minimum	−29	−32	−34	−19	−18	6	−12	6	1	6	5	18	15	8	17	13	14	20	22	14	13	10	19	24	16	14	8	2	14	5	− 4	4.6
Dickinson	Maximum	5	− 4	29	28	31	31	34	39	40	41	38	40	35	40	47	40	50	54	57	42	33	47	59	49	41	46	38	51	43	44	30	38.6
	Minimum	−19	−31	−31	13	5	13	13	28	15	23	21	18	25	20	24	25	24	33	33	25	24	25	31	30	24	17	21	15	33	14	15	17.0
Donnybrook	Maximum	− 6	−22	29	24	28	32	28	48	34	36	26	37	34	30	36	40	42	30	43	43	49	29	43	45	38	38	33	40	40	30	32.6
	Minimum	−22	−26	−32	− 6	− 6	10	10	27	11	23	5	10	17	12	22	22	18	14	25	20	23	19	27	35	22	23	21	8	23	14	2	12.0
Dunseith	Maximum	− 2	− 4	−22	21	0	14	22	42	44	37	35	21	26	34	32	36	40	45	33	44	37	28	33	34	39	35	38	29	37	42	24	28.2
	Minimum	−33	−27	−35	−27	−17	− 7	− 7	2	0	15	4	8	13	10	5	16	10	17	17	22	14	2	7	23	18	4	19	2	12	5	− 1	2.9
Edgeley	Maximum	− 2	− 7	− 4	26	7	29	29	36	32	36	26	33	31	27	36	37	41	39	42	43	36	30	37	44	40	44	38	35	46	37	29	30.7
	Minimum	−27	−24	−31	− 6	−21	4	− 2	10	− 1	25	4	21	20	18	14	19	17	21	22	26	21	20	24	36	28	20	27	9	23	15	8	11.0
Ellendale	Maximum	− 1	−14	11	26	16	29	19	37	35	37	26	33	31	28	40	37	42	40	41	43	30	28	35	43	40	45	36	34	48	39	28	31.0
	Minimum	−25	−28	−33	−13	−18	16	− 1	14	9	16	9	26	22	12	10	18	18	23	23	25	22	22	26	22	24	18	20	10	19	13	11	10.6
Fessenden	Maximum	− 3	− 7	6	24	9	27	29	34	27	30	19	32	30	25	37	39	40	27	41	42	29	27	42	40	37	37	31	29	35	28	16	27.7
	Minimum	−35	−33	−41	− 6	−25	6	− 7	13	− 5	14	1	16	13	5	10	19	19	14	19	12	15	10	18	28	21	10	18	0	17	8	− 2	4.9
Forman	Maximum	− 3	−14	16	15	3	24	30	37	37	33	32	32	33	31	33	36	37	37	40	40	34	32	36	43	39	40	39	34	44	40	32	30.8
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11	20	14	11	.....
Fullerton	Maximum	− 2	− 8	− 7	− 4	13	30	23	37	33	36	24	32	33	26	38	36	40	38	39	39	32	29	36	43	42	43	36	33	46	36	28	29.0
	Minimum	−26	−22	−34	−18	−18	13	− 3	14	4	14	9	23	19	15	10	15	18	21	23	27	21	20	25	24	22	19	22	9	22	13	16	10.2
Garrison	Maximum	− 4	− 4	21	23	25	31	26	36	36	36	26	40	38	33	42	36	43	33	52	48	37	29	52	36	41	45	40	30	28	33	28	33.9
	Minimum	−29	−31	−33	− 6	−17	17	5	22	13	20	10	16	17	11	19	22	18	20	25	17	18	19	16	33	22	18	20	10	29	11	9	11.0
Grafton	Maximum	− 7	− 9	−12	− 4	− 6	10	10	37	21	35	15	23	28	24	36	34	40	30	35	33	31	28	31	37	34	29	24	28	39	32	18	23.0
	Minimum	−35	−22	−36	−15	−28	− 8	−14	0	−10	8	3	3	17	7	4	6	19	21	17	12	10	9	8	28	22	2	13	2	10	10	− 6	1.8
Grand Forks	Maximum	−10	−15	− 6	− 2	− 3	10	15	35	27	31	19	26	31	21	35	36	38	25	36	25	32	20	32	35	32	31	28	25	36	22	10	21.8
	Minimum	−36	−30	−36	−21	−25	0	−10	− 2	−10	9	9	20	9	7	9	4	19	20	20	15	13	8	13	30	19	6	10	0	13	1	9	2.4
Granville	Maximum	− 4	18	24	28	18	30	30	32	30	32	18	35	30	32	30	40	40	28	43	42	28	28	43	40	35	35	30	37	39	22	15	28.5
	Minimum	−40	−32	−39	−15	18	5	15	2	8	10	8	18	20	18	20	30	10	10	25	10	18	15	23	30	18	15	10	0	15	10	− 3	7.0
Hannah	Maximum	− 5	−14	− 6	7	5	14	12	30	24	23	18	25	24	20	22	30	34	31	34	28	18	19	30	34	33	28	22	24	32	20	18	20.5
	Minimum	−35	−31	−38	−16	−20	−13	−14	10	−12	9	− 1	7	10	6	11	9	14	18	19	10	10	0	8	21	20	19	3	− 9	10	3	−15	0.4
Hansboro	Maximum	− 5	− 8	10	13	− 2	17	27	42	34	....	37	27	28	18	36	37	38	38	34	29	26	28	33	36	....	36	22	18	37	20	....	[c]25.2
	Minimum	−32	−33	−37	−12	−23	−12	−12	10	−10	....	− 2	10	10	8	10	9	9	15	10	9	15	− 2	10	12	....	0	15	− 2	10	3	....	[c] 0.4
Hettinger	Maximum	4	− 5	28	18	28	30	35	38	42	44	40	38	36	42	48	48	46	56	60	52	37	52	62	42	41	49	41	41	49	46	32	39.4
	Minimum	−20	−26	−32	8	− 3	13	5	15	12	19	19	9	16	18	18	29	27	34	28	22	17	22	35	28	22	12	19	16	15	8	13	13.5
Howard	Maximum	0	−20	−24	30	30	22	31	33	33	30	34	28	22	28	35	36	37	38	40	38	29	32	45	57	33	38	32	38	38	28	27	29.0
	Minimum	−20	−36	−35	−30	0	8	18	23	14	14	19	17	11	10	20	21	21	30	20	20	18	28	27	15	18	14	16	9	8	8	10.7
Jamestown	Maximum	14	−11	− 2	22	14	28	30	36	34	32	29	33	31	29	37	38	40	40	41	39	38	33	36	39	40	42	41	40	39	37	23	31.0
	Minimum	−28	− 22	−32	0	−14	3	− 5	12	− 2	24	8	21	20	16	9	18	14	19	21	23	18	16	26	25	25	16	25	8	18	15	5	9.8
Lakota	Maximum	− 8	2	− 5	2	1	12	20	15	20	31	32	27	29	30	31	33	35	28	28	30	29	21	30	33	21	31	26	26	35	27	14	22.8
	Minimum	−36	−31	−38	−20	−18	− 6	− 7	− 8	− 1	− 2	16	12	13	8	4	15	14	4	10	12	9	0	8	10	2	9	15	2	11	8	−11	1.1
Lamoine	Maximum	− 4	....	15	25	15	28	24	33	30	30	26	30	29	29	38	36	38	30	41	38	34	26	37	38	35	35	29	32	36	27	22	27.5
	Minimum	−31	−27	−39	− 5	−22	14	4	5	5	16	6	5	5	14	18	11	12	18	12	15	8	21	24	20	10	16	− 1	20	5	2	5.4
Langdon	Maximum	− 6	−18	2	− 5	0	14	27	27	26	26	15	25	19	18	28	30	36	27	36	30	29	21	31	24	27	25	23	24	35	18	10	20.1
	Minimum	−35	−28	−42	−15	−28	−10	−12	−16	−10	5	− 2	− 4	15	− 4	5	15	10	15	16	12	10	3	5	19	10	2	15	− 8	4	5	−10	− 1.9
Larimore	Maximum	− 5	−10	− 9	− 3	− 5	11	10	38	32	32	22	28	27	25	33	36	40	24	40	29	32	28	32	35	32	35	29	28	38	28	14	23.4
	Minimum	−33	−26	−36	−23	−28	− 8	−10	2	−10	10	3	15	14	12	9	19	17	11	20	19	15	10	13	24	18	11	20	1	11	10	− 5	3.4
Lisbon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
McHenry	Maximum	− 5	−22	0	15	− 4	0	15	32	27	25	21	29	32	30	36	35	37	25	39	32	30	18	32	27	31	32	29	23	35	22	21	22.5
	Minimum	−33	−28	−40	−10	−18	−15	−23	−11	− 3	11	5	14	11	14	15	10	22	19	18	17	18	9	18	11	18	9	11	− 3	13	− 3	0	2.5
McKinney	Maximum	0	9	26	26	18	32	28	40	30	40	23	31	35	35	32	35	44	25	43	42	36	35	45	45	45	40	38	40	44	25	18	31.8
	Minimum	−27	−32	−32	− 5	−18	6	5	25	7	21	6	7	14	19	18	18	13	18	25	13	21	18	18	30	21	28	21	1	23	15	− 1	9.5
Maddock	Maximum	− 5	− 8	3	20	2	24	24	32	28	28	22	27	32	33	33	43	36	31	39	37	36	26	....	39	38	35	35	23	33	30	19	25.6
	Minimum	−35	−31	−38	− 7	−22	0	−13	15	− 2	16	5	15	13	4	6	13	13	13	18	12	11	10	16	25	19	5	18	− 3	13	9	− 4	3.7
Marmarth	Maximum	2	− 6	25	22	30	27	30	35	38	44	44	37	32	40	42	37	50	55	53	50	35	47	56	41	40	43	39	50	45	44	27	37.2
	Minimum	−14	−28	−30	5	8	14	4	22	15	14	21	15	12	17	15	23	21	35	28	22	12	18	30	29	18	14	17	12	22	10	12	13.3
Minot	Maximum	− 2	−10	20	29	11	31	31	36	23	35	35	21	38	31	38	43	41	39	43	48	44	27	42	45	43	37	42	35	42	35	18	33.0
	Minimum	−31	−37	−40	− 3	−21	8	1	17	1	12	2	7	12	3	22	21	10	9	21	9	10	13	17	34	17	17	17	2	24	9	− 3	6.0
Mott	Maximum	− 1	−12	− 4	22	34	42	32	40	41	42	40	46	34	45	47	45	49	57	58	58	62	57	60	48	39	50	40	52	48	42	30	40.1
	Miuimum	−25	−27	−20	− 8	5	0	5	5	8	14	15	10	18	13	15	26	20	26	23	21	19	18	23	24	18	10	14	10	10	9	7	9.9
Napoleon	Maximum	− 4	−10	− 3	25	20	30	26	35	30	34	23	32	30	28	35	34	43	44	45	43	35	31	43	43	40	43	33	43	41	37	27	30.8
	Minimum	−32	−30	−40	− 5	10	7	6	15	2	15	9	20	18	6	13	21	14	22	25	20	12	20	24	28	24	16	17	25	23	11	8	10.5
New England §§	Maximum	− 3	− 3	28	16	31	29	23	36	38	39	39	38	33	37	43	43	48	53	54	48	38	43	56	41	39	43	38	49	42	40	....	*35.4
	Minimum	−23	−25	−29	− 2	0	14	11	13	15	17	20	13	22	18	20	26	24	34	33	25	23	23	26	32	23	13	16	14	16	13	13	14.1
New Salem	Maximum	− 2	− 9	35	26	24	26	29	36	36	26	29	39	35	36	32	34	48	46	53	52	48	43	41	48	49	51	38	49	44	40	36	36.1
	Minimum	29	−32	−26	− 8	11	18	8	25	12	12	13	13	20	18	12	14	18	26	26	23	26	13	18	22	23	19	22	12	14	12	11	11.8
Orange	Maximum	3	− 8	37	28	33	31	30	31	41	39	36	41	37	43	48	40	51	58	54	53	44	42	51	51	44	55	42	56	49	44	29	40.3
	Minimum	−28	−26	−27	9	0	11	5	24	26	24	18	13	21	17	13	26	12	29	23	22	19	26	27	30	22	11	21	13	28	9	12	13.9
Park River	Maximum	− 7	− 7	−10	− 4	− 6	12	12	....	35	33	34	25	25	24	33	35	40	30	40	40	33	26	....	33	36	33	32	20	38	30	20	[a]23.8
	Minimum	−26	−22	−33	−11	−22	−12	−11	....	− 7	21	21	6	6	14	10	23	18	19	18	18	19	− 9	....	26	20	12	20	4	14	14	4	[b] 5.9
Pembina §§	Maximum	−20	12	−10	− 8	8	−12	30	18	28	22	18	28	18	24	26	28	24	28	34	28	24	30	32	30	24	12	32	34	32	12	16	18.6
	Minimum	−34	−28	−38	−22	−22	−12	−20	−12	− 4	8	4	− 6	6	2	8	12	10	8	18	22	18	12	18	24	16	4	2	0	18	4	−12	0.1
Steele	Maximum	−26	−19	− 5	20	52	30	27	36	27	34	34	33	29	27	27	41	43	52	54	54	44	44	39	47	47	39	44	41	40	41	30	33.1
	Minimum	−44	−34	−40	5	10	15	14	16	14	8	16	10	12	14	12	20	26	30	31	34	30	32	28	30	30	15	16	8	18	7	6	12.5
Towner	Maximum	− 4	− 7	23	26	10	18	22	34	30	30	20	28	32	16	30	41	38	25	43	35	28	23	44	39	37	35	32	29	33	27	15	26.8
	Minimum	−37	−33	−42	−10	−24	− 6	7	18	1	10	5	18	14	3	9	19	14	13	21	11	18	12	23	29	20	2	18	− 6	18	8	− 4	4.8
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton	Maximum	4	2	− 4	2	1	18	0	33	33	34	35	32	31	30	42	35	39	35	40	42	43	32	32	42	37	40	34	34	42	41	31	28.8
	Minimum	−19	−19	−36	−13	−26	−16	−13	− 1	− 5	10	9	22	17	8	8	15	15	19	20	39	30	15	15	32	26	17	12	10	26	12	7	7.7
Washburn	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum	− 5	−10	26	26	17	23	23	33	30	33	20	27	30	21	33	33	36	27	40	30	30	36	36	38	33	31	32	22	35	20	16	26.5
	Minimum	−32	−31	−37	10	5	− 3	2	2	2	3	2	12	11	1	7	15	11	16	18	9	19	9	16	26	16	0	3	3	12	....	4	5.2
Williston	Maximum	− 1	−16	27	20	32	31	35	35	40	31	28	38	31	38	39	36	42	41	47	46	29	39	51	41	39	42	33	48	40	34	31	33.8
	Minimum	−23	−30	−29	1	10	19	17	20	16	16	15	16	20	12	22	26	25	28	27	24	20	20	32	30	34	21	21	18	15	15	16	14.9
Willow City	Maximum	− 4	−20	6	1	6	21	18	34	27	22	14	27	23	19	26	35	36	24	35	37	28	19	43	39	36	31	31	24	34	19	17	22.8
	Minimum	−35	−32	−40	− 6	−20	11	6	16	− 4	6	4	8	8	0	4	11	9	14	13	8	6	9	18	18	16	− 4	12	− 9	6	1	− 9	1.1
Zap	Maximum	− 5	−10	24	20	29	30	28	38	26	45	29	42	35	38	43	33	48	43	58	48	33	35	58	48	48	17	33	46	40	41	25	35.7
	Minimum	−30	−35	−38	0	6	20	5	21	9	15	15	13	15	10	14	25	17	23	25	18	18	19	25	27	19	14	17	12	23	6	8	10.5

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
NO RAIN
NO RAIN
Scale of Shades.
0 to 2 inches.
2 to 4 inches.
4 to 6 inches.
6 to 8 inches.
Over 8 inches.
Based on about 650 records.
M.G.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

FEBRUARY, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MARCH 31, 1919.

Departure of the Mean Temperature from the Normal, February, 1919.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., FEBRUARY, 1919. No. 2.

GENERAL SUMMARY.

Weather conditions during February, 1919, approximated the normal in most respects. The temperature was near or slightly below normal during the first eight days of the month, above normal from the 9th to the 22d, inclusive, and much below normal during the remainder of the month. The precipitation, which was practically all in the form of snow, was considerably above normal in the southeastern portion, below normal over the extreme northern portion, and generally near normal over the rest of the State. The snow cover was confined mostly to the northeastern portion at the beginning of the month, and there was little additional snowfall until the 12th, when there was a general light fall, followed by a period of frequent snowfall from the 17th to the end of the month. There were no severe storms, the maximum wind velocities recorded being less than 36 miles per hour, except in the extreme southeastern portion of the State. Livestock grazed successfully on the ranges and farms during the greater portion of the month, but the snow interfered considerably during the latter half.

PRESSURE.

The mean sea-level atmospheric pressure, obtained from six recording stations, was 30.12 inches. The highest was 30.61 inches at Bismarck on the 8th; the lowest was 29.39 inches at Williston on the 10th.

TEMPERATURE.

The mean temperature for the State was 7.7°, or 0.2° below the normal, and 3.1° lower than the mean for February, 1918. The highest mean reported was 16.0° at Bowman, Bowman County; the lowest was 0.8° at Langdon, Cavalier County. The highest temperature reported was 58° at Mott, Hettinger County, on the 10th; the lowest was -40° at Hannah and Langdon, Cavalier County, on the 26th, and at Orange, Adams County, on the 28th. The greatest monthly range was 95° at Mott, Hettinger County; the least was 56° at Hillsboro, Traill County. The greatest daily range was 50° at Beach, Golden Valley County, on the 9th. The highest temperatures were generally recorded during the period from the 9th to the 11th, inclusive, and the lowest from the 25th to the 28th, inclusive.

HUMIDITY.

The average relative humidity, as determined from the reports of five recording stations, was 88 per cent, the average at 7 a. m. being 90 per cent, and at 7 p. m. 85 per cent.

PRECIPITATION.

The average precipitation for the State was 0.66 inch, or 0.17 inch above the normal, and 0.47 inch more than the average for February, 1918. The greatest monthly amount reported was 1.90 inches at Fullerton, Dickey County; there was none at Dunseith, Rolette County. The greatest amount recorded in any twenty-four consecutive hours was 0.90 inch at Fullerton, Dickey County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 5. Practically all the precipitation was in the form of snow, and the average fall was 6.5 inches. General falls of snow occurred on the 12th and 13th and during the period from the 18th to the 24th, inclusive. The heaviest falls occurred over the southeastern portion, and the lightest over the extreme northern portion.

WIND.

The prevailing direction of the wind was northwest. The average hourly velocity, determined from the records of five stations, was 9.4 miles. The greatest wind movement was 9,778 miles at Ellendale, an average of 14.6 miles per hour; the least was 4,506 miles at Williston, an average of 6.7 miles per hour. The maximum velocity for a period of five consecutive minutes, considering only the records of six stations equipped with anemometers, was at the rate of 50 miles per hour from the northwest at Ellendale on the 14th.

SUNSHINE AND CLOUDINESS.

The amount of sunshine was considerably less than normal; the average number of clear days was 10, partly cloudy days 8, and cloudy days 10. —E. G. L.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	- 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	- 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.9	+6.0	62	−34	0.99	+0.50	5	12	7	10	nw.
1909...	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw.
1916...	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	- 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.

Climatological Data for February, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	9.4	+2.4	38	16	−30	25	45	1.40	+1.02	0.50	14.0	5	10	8	10	n.	E. R. Carley.
Ashley	McIntosh	2,001	22	11.2	+3.4	43	10†	−25	25†	32	1.40	+0.95	0.40	14.0	6	13	5	10	ne.	R. C. Miles.
Beach	Golden Valley	2,576	13	13.4	−0.2	54	9	−35	28	50	0.19	−0.33	0.15	3.5	3	14	7	7	nw.	D. J. Steiner.
Berthold Ageney††	McLean	2,082	25	9.4	0.0	52	10	−36	23	40	0.45	−0.13	0.23	5.0	7	13	5	10	nw	C. L. Hall.
Bierman	Slope	.....	3	14.7	.....	51	9	−25	28	39	0.44	.....	0.10	4.5	8	9	6	13	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	45	10.0	+1.7	52	10	−24	25	36	0.63	+0.13	0.17	8.3	11	5	11	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	4.0	+2.2	38	10†	−31	26	33	0.36	−0.02	0.15	.....	7	16	4	8	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	1.8	.....	42	10	−34	26	44	0.30	.....	0.20	.....	2	22	1	5	.....	G. H. Phelps.
Bowman	Bowman	.....	5	16.0	.....	53	10	−36	28	47	0.18	.....	0.04	4.2	5	6	7	15	nw.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	.....	.....	.....	.....	.....	0.39	+0.15	0.32	.....	2	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	7	10.8	.....	50	10	−33	28	30	0.64	.....	0.20	6.5	9	5	13	10	nw.	J. W. Evens.
Colgate	Steele	1,177	5	5.6	.....	33	20	−27	25	26	0.55	.....	0.20	5.5	4	10	4	14	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	0.20	−0.16	0.20	2.0	1	17	7	4	nw.	S. Friswold.
Crosby	Divide	1,954	12	4.8	−2.3	41	10	−29	26	33	0.50	+0.26	0.20	5.0	5	10	12	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	3.6	−0.9	39	10	−32	26	30	0.70	+0.17	0.34	9.6	6	6	8	14	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	12.3	+2.0	52	10	−37	28	40	0.67	+0.23	0.16	8.8	8	5	11	12	ne.	J. C. Thysell.
Donnybrook	Ward	1,760	20	7.0	0.0	41	11	−28	26	39	0.60	+0.04	0.20	5.0	4	7	16	5	se.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	.....	.....	52	10	.....	.....	.....	0.35	.....	0.20	5.2	3	8	10	10	nw.	W. H. Mellow.
Dunseith	Rolette	1,682	23	5.0	+1.6	40[a]	10	−34	26	39	0.00	−0.44	0.00	0	0	8	8	12	.....	J. G. Lamont.
Eekman	Bottineau	.....	14	2.5	−3.9	48	10	−33	26	47	0.23	−0.16	0.12	4.0	4	15	9	4	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	11.3	+0.4	47	10	−25	27	38	0.42	+0.08	0.21	.....	8	6	11	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	10.9	+0.2	44	10	−30	25	30	0.74	+0.12	0.36	10.7	6	2	12	14	ne.	U. S. Weather Bureau.
Energy ††	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.36	.....	6	2	17	9	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	0.33	−0.03	0.15	5.0	4	15	8	5	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	5.4	.....	43	10	−33	25	39	0.95	.....	0.80	9.5	3	16	3	9	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	14.4	+4.5	36	21	−28	25	40	1.65	+1.15	0.60	16.5	6	14	8	6	nw.	R. P. Williams.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.32	7.0	3	6	16	6	e.	Verne King.
Fullerton	Dickey	1,439	21	13.4	+4.1	43	10	−26	25	36	1.90	+1.10	0.90	19.0	4	11	7	10	nw.	F. O. Alin.
Garrison	McLean	1,901	24	7.2	−1.2	51	11	−30	28	36	1.39	+0.87	0.43	13.5	8	14	8	6	ne.	G. L. Robinson.
Grafton	Walsh	827	27	6.3	+1.4	33	11	−29	27	29	0.47	−0.12	0.15	4.0	6	.....	.....	.....	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	27	5.6	−0.9	33	11	−27	26	31	0.45	−0.10	0.30	5.0	6	6	9	13	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	11.0[1]	.....	38[o]	21	−25[1]	25†	23[o]	1.20	.....	0.60	12.0	3	.....	.....	.....	.....	G. E. Pooley.
Granville	McHenry	1,504	12	4.2	−4.2	44	10	−30	26	35	1.20	+0.86	0.40	13.0	6	10	7	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	1.2	−0.8	34	10	−40	26	31	0.60	+0.04	0.20	6.0	4	17	4	7	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	1.0	−2.7	37	10	−37	25	37	0.36	−0.14	0.26	3.0	2	13	8	7	nw.	C. E. Blaekorby.
Hettinger	Adams	2,253	11	14.8	+1.6	50	11	−35	28	42	0.10	−0.21	0.03	.....	5	12	8	8	se.	U. J. Downey.
Hillsboro	Traill	901	13	7.9	−0.6	32	11	−24	26	27	0.42	−0.34	0.20	4.2	4	8	13	7	n.	F. E. Mayall.
Howard	Williams	2,275	12	5.0	−1.0	40	10	−32	28	33	1.20	+0.49	0.50	12.7	4	9	15	4	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	10.8	+2.9	42	11	−23	26	34	1.05	+0.46	0.40	10.5	5	15	2	11	n.	S. Calvelage.
Lakota	Nelson	1,579	18	3.8[a]	−0.6	34[a]	11	−32[a]	26	39[a]	0.71	+0.12	0.30	10.0	6	16	7	5	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	4.8[b]	−2.9	43[b]	10	−29[b]	26	37[c]	1.20	+0.86	.....	12.0	7	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	0.8	−2.2	33	10	−40	26	38	0.90	+0.22	0.40	9.0	4	15	3	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	6.0	+0.8	33	11	−27	26	36	0.61	+0.15	0.20	6.1	7	8	7	13	n.	G. G. Graham.
Lisbon	Ransom	1,091	15	8.0	−1.6	32	23	−27	25	40	1.20	+0.41	0.60	12.0	3	2	10	16	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.15	4.5	5	13	10	5	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	5.9	.....	39	10	−30	25†	34	0.24	.....	0.08	2.4	4	21	2	5	nw.	P. E. Trudeau.
McKinney	Renville	1,640	25	3.6	−1.5	43	10	−32	25	39	0.20	−0.10	0.10	2.0	2	.....	.....	.....	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	12.7	.....	43	11	−27	25	33	0.90	.....	0.40	9.0	5	11	4	13	nw.	R. D. Markland.
Maddock	Benson	1,604	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. P. Cowing.
Mandan	Morton	1,644	5	8.6	.....	51	10	−23	25†	45	0.68	.....	0.25	7.0	9	.....	.....	.....	.....	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	5.0	−1.8	38	10†	−31	26	38	0.59	+0.14	0.16	7.5	6	12	8	8	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	14.6	+1.5	57	9	−29	28	47	0.58	+0.25	0.30	7.5	7	7	7	14	nw.	S. P. Grane.
Marstonmoor	Stutsman	1,945	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grace Williamson.
Mayville	Traill	975	23	8.5	+0.8	35	11	−25	26	35	0.39	−0.01	0.12	.....	6	13	3	12	n.	W. C. Gould.
Melville	Foster	1,590	21	7.3[d]	+0.7	41[d]	10†	−27[d]	26	48[d]	1.30	+0.99	0.80	13.0	3	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.34	6.0	4	7	7	14	n.	Hj. Edman.
Minot	Ward	1,557	23	4.7	−3.2	47	11	−34	26	43	0.80	+0.33	0.50	8.0	4	14	4	10	nw.	W. I. Faris.
Minto	Walsh	820	26	7.6	+1.7	32	11	−25	27	36	0.58	+0.08	0.40	.....	7	13	2	13	n.	C. M. Evans.
Mott	Hettinger	2,424	12	12.6	+0.8	58	10	−37	28	47	0.68	+0.13	0.20	7.5	13	3	10	15	se.	O. H. Opland.
Napoleon	Logan	1,955	27	8.3	+1.5	48	10	−31	28	41	1.00	+0.60	0.50	10.0	4	11	3	14	e.	C. J. Hoof.
New England	Hettinger	2,400	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. S. Lowis.
New Salem	Morton	2,163	14	8.8	−1.8	44	11	−27	26†	33	0.65	+0.27	0.16	7.0	9	5	12	11	nw.	J. Christiansen.
Orange ††	Adams	2,586	10	12.4	+0.5	52	10	−40	28	44	0.50	−0.10	0.30	5.0	2	4	8	16	se.	T. F. Young.
Park River	Walsh	998	15	6.2	+0.5	35	21	−25	26†	34	0.26	+0.20	0.09	.....	4	13	0	15	nw.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	0.70	.....	.....	7.0	3	16	8	4	nw.	J. A. Johnson.
Pembina	Pembina	789	45	1.5	+0.1	30	20	−34	27	40	0.02	−0.74	0.02	0.2	1	11	10	7	se.	C. W. Shumaker.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	0.85	+0.29	0.20	8.5	6	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.50	5.0	1	7	14	7	e.	C. Frank.
Sanish	Mountrail	2,260	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.34	+0.70	0.37	9.0	5	5	15	8	nw.	H. F. Solenberger.
Steele	Kidder	1,857	22	11.5	+4.4	52	11	−28	24	38	1.07	+0.65	0.50	10.8	7	14	6	8	nw.	H. S. Wood.
Taylor	Stark	2,493	3	7.6[d]	.....	42[1]	11	−34[d]	28	34[d]	0.18	.....	0.14	.....	3	.....	.....	.....	.....	H. Leutz.
Towner	McHenry	1,482	17	2.8	−2.4	40	10†	−33	26	39	0.80	+0.44	0.40	8.0	4	18	3	7	nw.	B. Bagley.
Valley City	Barnes	1,245	1	8.0	−1.6	33	11	−27	26	28	1.00	+0.67	.....	10.0	6	.....	.....	.....	nw.	R. Bruns.
Wahpeton	Richland	962	25	12.0	+2.1	37	21†	−22	25†	27	0.40	−0.16	0.20	4.0	2	15	0	13	nw.	F. E. Smith.
Walhalla	Pembina	966	12	6.6	+2.8	38	11	−27	26	32	0.25	−0.26	0.20	2.5	6	15	10	3	n.	Ivan Lee.
Westhope	Bottineau	1,508	13	3.7	+0.4	40	10	−35	26	39	T.	−0.23	T.	T.	0	16	4	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	7.2	−0.7	49	10	−28	28	36	1.02	+0.55	0.60	5.5	10	4	12	12	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	2.1	−0.6	38	10	−39	26	45	1.00	+0.55	0.20	10.0	6	10	10	8	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	7.6	−2.7	52	10	−34	28	39	0.46	+0.19	0.25	6.4	8	6	8	14	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	9.7	+2.7	35	11	−25	20	28	0.58	−0.15	0.22	5.8	9	10	5	13	n.	U. S. Weather Bureau.
Averages		.....	.....	7.7	−0.2	58	10	−40	26†	50	0.66	+0.17	0.90	6.5	5	10	8	10	nw.	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.

Daily Precipitation for February, 1919.

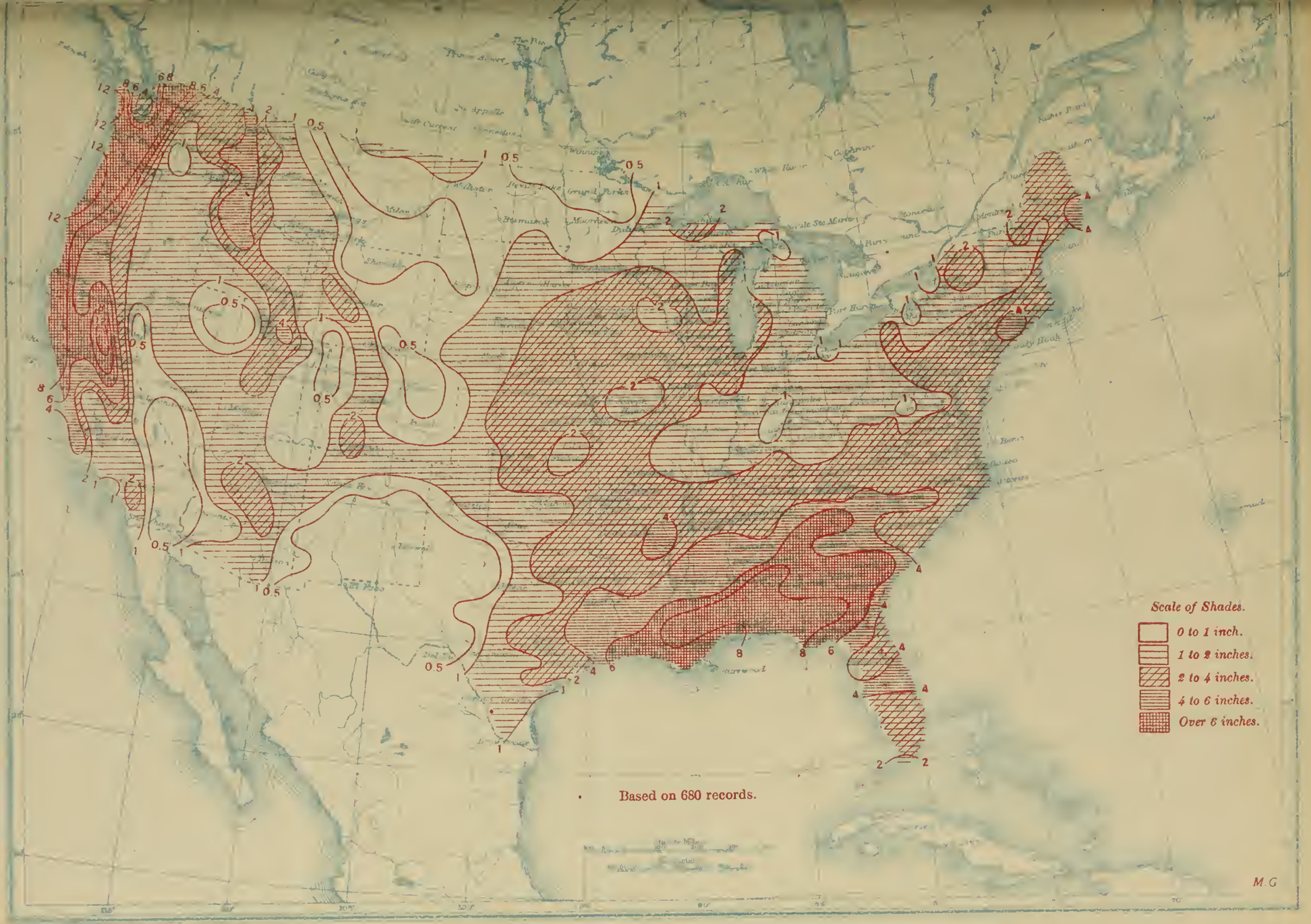
Stations.	Watersheds.	Day of Month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red																				.30	.50	.20	.10	.30				T.				1.40
Ashley	Missouri		T.											.20						.20	.20	.20			.20			.40					1.40
Beach	Lit. Missouri		T.				.02	.02					.15											T.		T.							0.19
Berthold Agency	Missouri					.04							.23	.06	T.				T.		.03	.03	.03	T.		T.							0.45
Bierman	Lit. Missouri							.02					.07									.05	T.	.05	.05	.10	.05	.05					0.44
Bismarck ***	Missouri			T.		.02	.01	T.					.02	.14	.06			T.	T.	T.	.08	.12	.01	.03	.03		T.	.11	T.					0.63
Bottineau	Mouse												.02	.15	.03				.03	.02			.08	T.	.03				T.					0.36
Bowbells ‖ ‖	Mouse													.20							.10													0.30
Bowman	Grand			T.			T.		.04				T.								T.		.03		.04		.04	.03						0.18
Cando	Sheyenne												.32									.07												0.39
Carson	Heart					.05	.15						.02	.02							.05	.05	.05	.05				.20						0.64
Colgate	Sheyenne																			.20	.10	.05					.20							0.55
Cooperstown	Sheyenne												T.							T.		.20												0.20
Crosby	Mouse											.05	.10						.20	.05			.10											0.50
Devils Lake ***	Sheyenne	T.								T.	T.	.13	.27	T.				T.	.01		.06	.16	.07		T.				T.					0.70
Dickinson	Heart					.07		.02		T.		.08	.09	T.								T.	.12	.10				.16	.03					0.67
Donnybrook	Mouse											.15						.10	.20	T.	T.		.15	T.										0.60
Dunn Center	Knife						T.	T.				.20	T.						T.		T.	T.	.10	.05				T.						0.35
Dunseith	Mouse																																	0.00
Eckman	Mouse											T.	.12	.02				T.	.05				.04	T.										0.23
Edgeley	James												.01	.02						.04	.06	.21	.01		.03			.04						0.42
Ellendale ***	James		T.					T.						T.	T.			T.		.34	.16	.07	T.	.04	.08			.05						0.74
Energy	Missouri					.01	T.	T.					.36	T.	.03	T.		T.	T.		T.	.02		.03	T.			.02						0.47
Epping	Missouri												.15	.03						.10		.05						T.						0.33
Fessenden	James										T.		T.	.80					T.		T.	.10	.05	T.										0.95
Forman	Sheyenne		.30								T.				.15					.60	.08				.12			.40						1.65
Fryburg	Lit. Missouri												.12								T.			.10				.32					0.54
Fullerton	James													T.						.90	.25			T.	.35	T.		.40					1.90
Garrison	Missouri						.04						.43	.21	.07				T.		T.	.16	.12	.18				.18						1.39
Grafton	Red										.02			.15						.05		.15	.06		.04									0.47
Grand Forks ***	Red	T.							T.		.02	T.	T.		T.			.03		.05	.10	.20	T.		.05				T.					0.45
Grand Rapids	James																			.50	.60							.10						1.20
Granville	Mouse			T.									.40		.20				.10	.10			.30			.10		T.						1.20
Hannah	Pembina	T.								.20				.10				T.	T.	.10		.20												0.60
Hansboro	Red																		.26				.10											0.36
Hettinger	Grand		T.				T.	T.	.01				T.						T.		.02	.03		.02		.02								0.10
Hillsboro	Red										T.	.02		T.				T.		.20		.15			.05									0.42
Howard	Missouri			T.		T.					T.		.50										.15	.15					.40					1.20
Jamestown	James													.25						.10	*	.40		.30				T.						1.05
Lakota	Sheyenne										.01	.04	.04	.30				T.			T.	.24	.08											0.71
Lamoine	Missouri						T.						*	*	.40							*	*	.40					.40					1.20
Langdon	Pembina										T.		.40							.20		.20	.10											0.90
Larimore	Red											.03	.03	.20				.05			.05	.20			.05									0.61
Lisbon	Sheyenne														T.	T.				T.	.60	.20	T.		.40	T.								1.20
McClusky	Missouri												.05	.15							.05	.15		.05										0.45
McHenry	James													.04								.08				.04		.08						0.24
McKinney	Mouse																	T.	.10				.10											0.20
McLeod	Sheyenne		T.								T.				T.						.40	.20	.10	.10				.10						0.90
Maddock	Sheyenne																																	
Mandan ‖ ‖	Missouri					.01	.05	T.					.12	T.	.01					T.	T.	.25	.11		.10				.03					0.68
Manfred	Sheyenne											T.	.08	.16			T.		.10			.12	.08	.05	T.									0.59
Marmarth	Lit. Missouri			.01			T.	.04	T.					.07	T.				T.		T.	.07		.04	.05		.30	T.						0.58
Marstonmoor	James																																	
Mayville	Red										.02	T.			.02						.12	.10	.12						.01					0.39
Melville	James													.80							T.	.40	.10											1.30
Milnor	Red																			.34	.20	.11			.15			T.	T.					0.80
Minot	Mouse												.50			.10			.10					.10											0.80
Minto	Red	T.									T.	.02		.06				.05		.02		.40	.02		T.			.01						0.58
Mott	Cannon Ball			.03	.02	.01							.10		.02				.05	.02	.08	.05		.03	.01		.06	.20						0.68
Napoleon	Missouri																					.30	.10					.10						1.00
New England ‖ ‖	Cannon Ball																																	
New Salem	Heart					.01	.07	T.	T.				.08	.12	.01				T.	T.	.08	.06		.06				.16						0.65
Orange	Cannon Ball																				.20						.30							0.50
Park River	Red	T.									T.			.08				T.		.01	.09	T.												0.26
Parshall	Missouri												*	.50														.20							0.70
Pembina ‖ ‖	Red																					.02												0.02
Power	Missouri																		.20	.15	.20	.05		T.	.20			.05						0.85
Powers Lake	Sheyenne					T.					T.		.50	T.				T.	T.	T.	T.	T.		T.										0.50
Sanish	Missouri																																	
Selfridge	Missouri													.02							.35	.37			.25			.35						1.34
Steele	Missouri					.02						.10	.50	.20						T.	T.	.15	T.				.05	.05						1.07
Taylor	Heart					T.							.14								T.			T.	.02			.02						0.18
Towner	Mouse												.40	.20					.10				.10	T.										0.80
Valley City	Sheyenne																	*	*	.45	*	.40			.15									1.00
Wahpeton	Red			.20																					.20									0.40
Walhalla	Pembina	.01									.01			.20					.01		.01	.01													0.25
Westhope	Mouse														T.																			T.
Williston ***	Missouri	T.	T.	T.		T.	T.				T.		.57	.06	.01			.03	T.	T.		.06	.05	.03	.05			.04	.12					1.02
Willow City	Mouse												.10	.20	.20				.20	.10			.20						T.					1.00
Zap	Knife					T.	.02						.02		.25				T.			.05	.05	.04	.01			.02						0.46
Moorhead, Minn ***	Red			T.							.02				.01			.01		.19	.02	.07	.03		.22			.01						0.58

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	27	12	12	15	8	12	13	20	24	34	34	28	24	22	26	38	25	28	31	26	30	21	19	5	−3	−8	12	8				19.
	Minimum	8	8	6	−13	−14	−13	−11	−11	−10	−11	18	22	22	9	4	4	8	7	7	22	21	19	−12	−4	−30	−25	−26	−18				−0.
Ashley	Maximum	31	27	11	17	13	18	18	24	27	43	43	36	25	15	19	32	24	27	28	26	32	28	15	3	−6	−8	−12	−6				19.
	Minimum	15	11	−5	−10	−3	−5	−2	−2	−5	15	28	23	15	9	3	8	0	11	22	18	24	15	0	−11	−25	−21	−22	−25				2.
Beach	Maximum	40	22	10	30	35	30	29	35	54	51	50	51	33	28	31	29	30	28	25	33	30	35	20	5	−6	−10	−9	−5				26.
	Minimum	6	1	−6	−8	5	8	4	2	4	26	19	17	22	10	−10	12	2	4	2	3	1	6	5	−20	−20	−21	−20	−35				0.
Berthold Agency	Maximum	30	23	14	19	14	18	20	25	38	52	48	35	23	16	25	35	27	20	21	23	27	23	15	5	−2	−5	−6	−3				20.
	Minimum	20	10	−6	−17	−7	−2	−7	−14	−1	21	30	21	9	8	−4	−5	5	12	15	−4	−4	1	2	−14	−36	−23	−21	−31				−1.
Bismarck	Maximum	30	18	8	15	15	15	16	20	32	52	42	30	21	14	23	34	18	21	25	26	26	22	13	1	−6	−10	−9	−5				18.
	Minimum	9	7	−4	−10	0	2	−4	−11	−3	16	30	21	8	8	4	12	1	14	20	16	17	6	1	−23	−24	−21	−16	−22				1.
Bottineau	Maximum	20	17	−3	4	6	6	5	6	22	38	38	32	22	16	13	20	20	15	26	25	20	22	14	4	−9	−5	−7	−7				13.
	Minimum	6	−11	−17	−25	−17	−15	−20	−18	−11	16	17	12	9	6	−6	−4	7	3	14	13	5	7	−9	−15	−30	−30	−24	−20				−5.
Bowbells §§	Maximum	20	10	−2	4	2	8	7	15	34	42	35	32	15	15	20	15	15	20	15	21	15	13	−1	−3	−10	−7	−12	10				12.
	Minimum	1	−7	−15	−22	−19	−14	−16	−22	−10	10	15	12	6	0	−10	−5	1	4	5	−5	−3	−3	−15	−18	−26	−34	−30	−24				−8.
Carson	Maximum	30	20	19	20	15	15	15	15	32	50	45	35	20	15	28	40	30	20	20	20	30	30	20	6	−5	−10	−10	−5				20.
	Minimum	15	5	5	−10	0	0	2	−5	2	20	20	20	8	0	0	10	10	18	15	10	8	5	2	−16	−23	−23	−20	−33				1.
Crosby	Maximum	22	15	3	2	1	4	4	14	34	41	35	25	21	15	16	28	18	21	20	20	16	13	1	−5	−12	−11	−6	−19				12.
	Minimum	14	1	−7	−17	−15	−5	−12	−12	1	27	24	9	8	−3	−7	3	2	10	14	14	6	2	−9	−12	−22	−29	−24	−25				−2.
Devils Lake	Maximum	22	6	−1	0	5	4	4	6	20	39	33	24	17	12	16	20	17	20	26	27	27	18	6	−3	−11	−10	−9	−4				11.
	Minimum	6	−5	−15	−21	−15	−14	−15	−17	−9	17	17	17	8	6	1	3	0	3	20	19	18	12	−15	−22	−27	−32	−28	−17				−4.
Dickinson	Maximum	30	23	14	29	18	12	15	22	42	52	47	37	24	17	31	38	31	25	25	24	27	29	20	0	−4	−12	−10	−3				21.
	Minimum	17	3	−1	−11	1	5	−2	−4	9	16	20	18	17	11	1	15	13	17	16	11	16	8	0	−10	−24	−24	−15	−37				3.
Donnybrook	Maximum	24	18	10	10	8	10	9	21	39	40	41	40	30	15	22	30	20	18	20	24	20	18	7	−1	−6	−7	−5	−5				16.
	Minimum	14	0	−9	−15	−8	−4	−11	−16	0	19	17	20	9	7	−4	15	−6	6	13	3	−1	−1	−11	−15	−20	−28	−26	−23				−2.
Dunseith	Maximum	22	5	−1	3	3	9	8	9	24	40	38	27	19	15	19	28	19	24	27	25	25	29	8	12	−6	−3	0					[a]15.
	Minimum	3	−6	−13	−27	−21	−17	−20	−15	−15	7	20	12	8	4	0	−1	9	1	10	18	10	8	−10	−16	−28	−34	−28	−18				−5.
Edgeley	Maximum	28	28	15	14	12	16	16	19	27	47	45	30	26	18	22	31	25	28	33	29	32	26	15	15	5	0	−1	−4				21.
	Minimum	10	9	−5	−13	−6	−5	1	−9	−5	13	26	22	15	9	6	−7	1	1	22	19	22	13	−5	−8	−23	−22	−25	−20				1.
Ellendale	Maximum	30	20	8	13	12	17	16	20	26	44	39	29	26	17	23	35	22	28	31	27	36	26	9	0	−6	−13	−8	−7				18.
	Minimum	18	7	−3	−10	−2	−5	−1	−6	−3	22	27	24	14	11	9	5	5	13	20	22	24	6	0	−17	−30	−21	−18	−20				3.
Fessenden	Maximum	25	17	4	6	5	10	7	11	27	43	38	27	23	13	19	23	18	20	25	27	27	24	8	−1	−10	−10	−9	−5				14.
	Minimum	8	−5	−17	−19	−13	−5	−14	−19	−12	16	23	19	10	5	−3	−1	5	3	14	15	14	−1	−4	−15	−33	−32	−26	−20				−3.
Forman	Maximum	29	30	22	9	11	14	16	17	26	34	35	35	30	24	25	34	29	31	31	30	36	33	24	22	16	12	5	0				23.
	Minimum	18	14	−2	−10	−7	−6	0	−8	−6	12	25	74	21	12	10	8	7	14	23	25	25	23	1	4	−28	−20	−20	−16				5.
Fullerton	Maximum	29	22	22	25	18	24	29	30	38	43	39	39	30	18	23	33	28	29	31	27	34	28	5	1	−5	−4	−8	−6				22.
	Minimum	9	12	8	9	4	10	12	4	2	16	12	6	18	7	8	5	7	15	19	19	24	2	−1	−10	−26	−21	−23	−19				4.
Garrison	Maximum	26	20	10	16	14	14	14	20	31	50	51	38	20	13	14	26	22	17	22	23	25	22	10	1	−7	−10	−10	−5				17.
	Minimum	18	2	−10	−15	−8	−10	1	−15	5	17	28	19	9	4	−5	−6	−10	10	10	2	10	5	−7	−18	−25	−29	−26	−30				−3.
Grafton	Maximum	20	20	7	4	5	8	11	....	18	28	33	29	25	18	23	30	29	22	27	29	29	24	9	0	−7	−8	−4	3				[a]15.
	Minimum	−2	−5	−11	−18	−18	−17	−15	....	−11	11	17	16	11	4	0	5	9	3	17	19	21	7	−17	−10	−24	−27	−29	−15				[a]−2.
Grand Forks	Maximum	22	10	2	4	3	4	7	10	18	28	33	29	26	17	22	28	19	24	28	29	29	21	1	−2	−10	−8	−7	2				13.
	Minimum	2	−1	−13	−18	−20	−17	−15	−10	−13	15	21	22	12	7	2	8	2	1	20	21	17	0	−15	−19	−22	−27	−25	−11				−2.
Granville	Maximum	22	10	3	2	5	15	4	10	25	44	22	25	20	12	18	27	20	18	20	18	20	15	8	4	−10	−10	−10	−4				12.
	Minimum	4	−2	−14	−19	−5	−18	−19	−22	−10	22	18	20	6	6	4	10	6	15	4	10	−5	−9	−18	−24	−30	−25	−22					−4.
Hannah	Maximum	18	12	1	−2	4	0	4	3	10	34	32	25	20	18	21	25	20	18	25	28	30	21	6	−4	−10	−13	−10	−8				11.
	Minimum	−6	−12	−23	−29	−26	−25	−25	−22	−21	10	22	18	9	5	−6	14	0	−9	10	18	19	−4	−26	−18	−36	−40	−36	−20				−9.
Hansboro	Maximum	20	13	1	4	−2	0	2	8	20	37	34	25	23	13	21	19	17	16	28	28	25	16	5	−10	−15	−18	−10	−3				11.
	Minimum	−15	−11	−17	−25	−27	−27	−20	−20	−17	10	16	10	10	3	−3	−1	3	−3	10	13	13	3	−22	−20	−30	−34	−32	−20				−9.
Hettinger	Maximum	30	24	16	31	31	22	19	26	44	48	50	49	27	21	39	43	37	28	25	28	26	28	22	19	2	−8	−12	0				25.
	Minimum	8	6	−2	−10	6	−1	5	6	21	6	16	22	17	5	5	1	17	18	16	17	18	9	4	2	−22	−19	−17	−35				4.
Howard	Maximum	22	14	14	19	8	5	4	21	24	40	34	32	19	19	10	30	20	18	16	20	15	12	12	12	−18	−19	−10	−13				13.
	Minimum	−5	2	−10	−5	0	−6	−18	−8	4	28	26	19	19	−5	−12	3	0	−6	−9	−6	4	−5	4	−21	−19	−21	−22	−32				−3.
Jamestown	Maximum	27	27	9	10	8	12	8	12	27	41	42	28	27	19	25	28	26	26	29	27	28	26	25	17	−6	−10	−12	−4				18.
	Minimum	9	7	−7	−12	−6	−1	−6	−8	6	7	8	22	15	9	8	4	1	9	23	21	22	14	17	−6	−20	−23	−18	−14				2.
Lakota	Maximum	21	20	14	−1	−14	2	....	19	20	33	34	25	23	16	17	20	17	20	25	26	25	22	8	4	4	−9	−9	−4				[a]14.
	Minimum	−1	−9	−16	−24	−19	−20	....	−20	−18	10	22	14	10	6	−2	−2	−2	3	3	18	12	2	−17	−8	−31	−32	−31	−31				[a] 6.
Lamoine	Maximum	25	26	18	14	10	12	9	13	....	43	38	30	22	12	16	16	19	19	22	....	24	17	17	1	−11	−12	11	−10				[b]14.
	Minimum	10	−5	−8	−23	−10	−10	−11	−19	−7	....	22	18	10	4	−3	0	−2	8	16	....	12	−1	−10	−13	−27	−29	−26	−27				[b]−5.
Langdon	Maximum	26	13	5	−2	4	4	4	6	18	33	29	20	12	13	19	22	11	20	25	28	30	20	13	6	−5	−10	−5	0				12.
	Minimum	−10	−9	−23	−30	−25	−29	−27	−23	−15	−5	20	12	−10	4	−5	0	−1	−3	−3	16	17	5	−20	−16	−35	−40	−35	−21				−11.
Larimore	Maximum	14	19	5	4	3	5	10	13	19	29	30	28	25	17	21	25	17	23	29	26	23	22	22	0	−6	−6	−7	4				14.
	Minimum	−5	−1	−10	−18	−16	−13	−14	−13	−13	10	21	10	11	6	1	8	4	11	19	20	10	6	−14	−10	−22	−27	−24	−15				−2.
Lisbon	Maximum	29	28	26	24	22	18	23	21	26	28	25	28	22	20	17	22	26	24	31	31	29	29	32	28	3	−5	0	11				22.
	Minimum	14	10	6	−15	−12	−14	8	16	14	12	16	18	16	10	8	11	12	11	12	21	22	16	−8	−6	−27	−23	−20	−16				4.
McHenry	Maximum	20	20	13	−1	7	12	20	21	26	39	28	30	22	20	16	20	20	22	27	26	29	21	16	0	−2	−9	−8	−6				16.
	Minimum	−4	−9	−20	−23	−14	−12	−6	−4	8	12	0	8	6	8	0	1	−5	6	20	16	20	16	−18	−23	−30	−30	−23	−18				−4.
McKinney	Maximum	20	15	6	5	0	10	8	15	31	43	40	29	27	20	22	26	20	15	20	19	21	12	5	1	−10	−5	−8	−9				14.
	Minimum	12	−2	−12	−19	−15	−15	−18	−20	−8	19	18	10	8	5	−10	−10	−10	5	10	−5	−2	−3	−15	−20	−32	−26	−22	−22				−7.
Maddock	Maximum																																
	Minimum																																
Marmarth	Maximum	25	22	15	35	27	27	20	29	57	50	53	38	23	21	38	40	41	31	27	26	24	35	22	5	−3	−3	−15	−6				25.
	Minimum	8	4	0	−10	3	5	10	9	10	25	18	21	18	5	−2	20	21	17	8	14	14	4	−3	−21	−19	−18	−20	−29				4.
Minot	Maximum	24	23	12	3	7	4	6	11	33	44	47	36	24	15	13	26	20	19	19	20	24	23	24	5	−7	−13	−15	−8				16.
	Minimum	9	−3	−14	−20	−11	−10	−16	−21	6	21	15	18	5	0	−10	4	−14	2	11	−2	2	−1	−19	−20	−28	−34	−31	−27				−6.
Mott	Maximum	30	25	10	21	15	20	15	20	40	58	51	32	30	20	38	44	38	28	32	24	26	32	19	5	−5	−10	−13	−7				22.
	Minimum	7	3	−3	−12	0	6	4	3	4	11	17	20	12	5	−1	12	12	15	18	11	16	10	5	−11	−22	−21	−17	−37				2.
Napoleon	Maximum	26	25	10	17	15	17	16	21	33	48	40	32	25	13	18	28	21	25	25	32	25	11	−8	−10	−10	−10	−11	−8				17.
	Minimum	11	5	−9	−15	−5	−6	0	10	−8	15	25	21	10	6	−4	4	−8	8	16	17	20	−2	−10	−27	−25	−27	−27	−31				−1.
New England §§	Maximum																																
	Minimum																																
New Salem	Maximum	29	25	16	16	12	21	13	19	28	42	44	29	21	12	21	33	26	26	21	22	25	25	14	6	−4	−13	−7	−6				10.
	Minimum	17	3	−9	−17	−3	−5	−12	−9	−3	21	25	18	8	1	−3	9	1	11	14	8	10	6	1	−14	−25	−27	−22	−27				−0.
Orange	Maximum	30	21	17	25	26	21	19	21	39	52	49	37	22	20	36	41	36	32	23	24	25	35	21	0	−2	−11	−10	−3				23.
	Minimum	10	5	−6	−14	2	5	−1	12	3	8	14	+20	12	5	2	13	11	16	17	12	10	5	0	−8	−27	−21	−17	−40				1.
Park River	Maximum	20	21	6	−1	2	6	9	11	22	32	34	28	24	18	20	25	23	22	25	27	35	21	10	1	−9	−9	−7	−1				[a].
	Minimum	0	0	−11	−17	−14	−13	−13	−9	−9	11	23	18	11	5	1	5	9	1	19	20	6	8	−17	−13	−21	−25	−25	−14				−2.
Pembina §§	Maximum	12	−2	−2	−8	0	−8	4	22	24	26	28	20	22	18	24	20	28	26	24	30	26	8	8	−12	−15	−12	0	18				11.
	Minimum	−4	−2	20	−26	−24	−26	−22	−18	−10	8	4	8	4	−8	−6	4	2	6	8	6	10	8	−14	−15	−28	−30	−34	−18				−8.
Steele	Maximum	29	29	10	15	16	30	33	43	46	50	52	29	22	30	26	33	50	22	35	30	27	27	25	2	−10	−10	−15	−10				23.
	Minimum	6	8	−10	−14	−7	−4	−2	5	10	15	18	8	7	4	12	3	2	7	8	12	15	5	2	−28	−28	−26	−26	−27				−0.
Towner	Maximum	15	15	5	−3	3	3	1	10	27	40	40	26	21	16	15	21	24	14	21	20	17	19	9	−1	−11	−11	−11	−5				12.
	Minimum	0	−9	−19	−25	−10	−5	−21	−25	−12	23	20	15	12	10	−5	−2	−10	4	24	13	10	0	−15	−17	−32	−33	−29	−21				−6.
Valley City	Maximum	23	20	18	8	5	10	2	2	19	28	33	31	28	22	28	25	21	22	29	24	25	23	18	2	0	2	0	2				16.
	Minimum	1	3	2	−20	−12	−10	−20	−17	−10	12	24	20	18	−2	5	−1	−2	6	20	16	23	15	−4	−5	−23	−27	−24	−14				−0.
Wahpeton	Maximum	34	30	20	10	10	9	11	14	14	23	32	36	32	30	22	24	32	30	32	36	37	37	29	10	6	−10	−4	2				21.
	Minimum	14	15	−2	−14	−14	−14	−8	−12	−10	0	23	24	22	12	5	8	5	13	22	30	25	22	3	−1	−22	−22	−19	−13				3.
Westhope	Maximum	20	10	3	3	3	16	22	10	27	40	38	24	20	15	16	28	20	16	20	20	20	14	3	3	−12	−12	−8	−3				13.
	Minimum	6	−10	−18	−24	−20	4	3	−21	−12	17	11	12	7	5	−5	−3	−6	2	16	6	1	0	−12	−18	−28	−35	−29	−19				−6.
Williston	Maximum	28	18	3	14	11	13	15	24	46	49	38	31	23	17	20	28	20	25	16	18	22	15	4	−4	−14	−12	−9	−10				16.
	Minimum	13	−1	−9	−12	−3	−2	7	−8	10	33	30	20	8	−3	−6	0	−2	14	−5	−5	13	1	−11	−20	−21	−23	−18	−28				−1.
Willow City	Maximum	21	5	−1	0	2	4	2	8	26	38	39	24	17	12	16	18	21	17	25	22	20	23	19	15	−5	−2	0	−5				13.
	Minimum	6	−12	−20	−28	−21	−15	−26	−26	−19	16	16	14	10	6	−10	−12	−14	1	15	15	8	2	−18	−25	−35	−39	−31	−20				−9.
Zap	Maximum	29	15	10	19	11	10	17	24	34	52	45	34	20	14	23	36	24	20	20	27	32	27	9	0	−8	−12	−10	−3				18.
	Minimum	12	−2	−10	−17	−7	−3	−9	−15	0	18	27	19	4	3	−7	2	−5	11	14	1	1	2	0	−18	−31	−26	−22	−34				−3.

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 680 records.
M.G

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

MARCH, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 28, 1919.

Departure of the Mean Temperature from the Normal, March, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., MARCH, 1919. NO. 3.

GENERAL SUMMARY.

Except in the extreme southeastern portion, the temperature was below normal for the month, varying from about eight degrees below normal in the north-central portion to slightly above normal in the extreme southeastern portion. The first five days were severely cold, but the remainder of the month produced no unusual departures from the normal. The amount of precipitation averaged about the normal, but was very unevenly distributed, the greater portion of the Sheyenne Valley and a large area west of the Missouri River receiving less than one-half inch, while large areas in the central and extreme western portions received from one inch to more than two inches. A storm of considerable intensity, which crossed the State from south to north on the 14th and 15th, resulted in a general fall of snow, and also rain and sleet in some southern and eastern localities. The humidity and cloudiness were excessive during the month, particularly during the latter half. Very little field work on farms was accomplished during the month, on account of low temperature and wet soil.

TEMPERATURE.

The mean temperature for the State was 17.8°, or 4.8° below the normal, and 17.2° lower than the mean for March, 1918. The highest mean reported was 26.6° at Wahpeton, Richland County; the lowest was 9.9° at Dunseith, Rolette County. The highest temperature reported was 67° at Marmarth, Slope County, on the 28th; the lowest was -35° at Minot, Ward County, on the 5th. The greatest daily range was 50° at Pembina, Pembina County, on the 5th. The greatest monthly range was 86° at Minot, Ward County; the least was 61° at five stations in the northeastern portion of the State. The highest temperatures were recorded during the last decade, and the lowest during the first five days. The mean temperature varied from about 12° in the extreme north portion, to about 24° in the extreme southwestern and southeastern portions.

PRECIPITATION.

The average precipitation for the State was 0.82 inch, or 0.01 inch less than the normal, and 0.43 inch more than the average for March, 1918. The greatest monthly amount reported was 2.63 inches at Hettinger, Adams County; the least was 0.08 inch at Taylor, Stark County. The greatest amount recorded in any twenty-four consecutive hours was 2.60 inches at Hettinger, Adams County, on the 14th. The average number of days with 0.01 inch or more of precipitation was 4. The greater portion of the precipitation was in the form of snow, the average fall being 6.2 inches. There were scattered light falls of snow from the 1st to the 3d, inclusive, except in localities in the north-central portion, where they were heavy. There was a general fall of rain or snow on the 14th and 15th, with the heaviest amounts in the central portion, and light to moderate amounts of rain or snow in the eastern and southern portions from the 22d to 24th, inclusive. —E. G. L.

ERRATA, FEBRUARY, 1919.

Page 12: Mean temperature at Bierman should be 14.8; total precipitation and departure at Dunseith should be 0.52 and +0.08; mean temperature and departure at Lisbon should be 13.0 and +3.4; highest temperature and date at Willow City should be 39 on 11th. Page 13: Total precipitation at Dunseith should be 0.52. Page 14. Minimum temperature at Towner on the 19th should be 4.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.18	30.85	20	29.30	15	57	7,035	9.5	36	se.	21
Devils Lake	30.16	30.85	20	29.16	15	44	7,855	10.6	38	n.	19
Ellendale	30.15	30.86	21	29.27	14	56	10,522	14.1	52	e.	14
Grand Forks	30.17	30.84	20	29.40	15	90	.....	.....	40	s.	15
Williston	30.13	30.75	20	29.37	15	48	5,812	7.8	52	se.	14
Moorhead, Minn	30.20	30.93	21	29.46	15	57	7,010	9.4	40	e.	14
Averages or extremes.	30.16	30.93	21	29.16	15	.....	.....	10.3	52	e.	14

* For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	183.2	369.9	50	— 5	91	72	81	64	11
Devils Lake	173.8	369.8	47	—10	93	88	82	54	5
Ellendale	216.9	370.0	59	.....	90	.....	96	64	20
Grand Forks	.....	.....	.....	.....	86	.....	84	.....	.....
Williston	201.6	369.7	55	— 1	84	71	73	50	26
Moorhead, Minn	.....	.....	.....	.....	89	.....	86	.....	.....
Averages or extremes	193.9	369.8	53	— 5	89	77	84	50	26

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893...	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894...	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895...	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896...	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897...	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898...	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899...	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900...	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901...	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902...	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903...	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904...	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905...	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906...	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907...	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908...	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909...	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910...	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911...	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912...	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913...	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914...	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915...	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916...	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918...	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919...	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.

Climatological Data for March, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	21.6	−2.0	48	24†	−24	2	43	0.30	−0.32	0.10	2.0	3	13	12	6	s.	E. R. Carley.
Ashley	McIntosh	2,001	22	20.0	−2.0	48	28	−19	1	32	0.70	−0.56	0.20	4.0	4	15	9	7	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	19.8	−6.7	46	11†	−23	1	41	1.78	+1.17	1.00	12.5	3	16	5	10	nw.	D. J. Steiner.
Berthold Agency‡‡	McLean	2,082	25	18.8	−5.9	55	31	−31	5	48	0.46	−0.39	0.28	4.0	4	14	6	11	e.	C. L. Hall.
Bierman	Slope		3	23.4		62	28	−18	1	40	0.93		0.60	7.2	3	7	9	15	nw.	E. F. Biermaun.
Bismarck	Burleigh	1,674	45	19.1	−3.0	50	31	−25	5	34	1.17	+0.13	0.65	7.4	7	8	9	14	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	12.8	−4.9	39	19	−27	5	35	0.42	−0.42	0.25		3	8	12	11	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	11.2		40	18†	−28	1	44	0.80		0.50		2	16	0	15		G. H. Phelps.
Bowman	Bowman		5	24.5		63	28	−16	5	42	0.49		0.41	6.0	3	10	13	8	sw.	M. W. Madsen.
Cando	Towner	1,488	18								0.64	−0.04	0.30		3				sw.	J. M. Russell.
Carson	Grant	2,500	7	20.2		52	31	−20	2	32	0.45		0.20	2.5	4	15	6	10	nw.	J. W. Evens.
Colgate	Steele	1,177	5	18.4		44	31	−22	4	42	1.00		0.50	8.0	3	16	7	8	nw.	James McCann.
Cooperstown	Griggs	1,428	9								0.30	−0.35	0.20	3.0	2	18	11	2	nw.	S. Friswold.
Crosby	Divide	1,954	12	14.3	−7.7	41	31	−22	5	30	0.45	−0.21	0.15	4.5	4	14	9	8	s.	John Jensen.
Devils Lake	Ramsey	1,478	15	14.4	−4.1	40	31	−21	2	33	1.49	+0.48	0.82	6.3	5	10	10	11	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	20.6	−3.8	55	31	−25	1	40	0.51	−0.38	0.24		4	13	6	12	nw.	J. C. Thysell.
Donnybrook	Ward	1,760	20	17.3[e]	−5.1	44[e]	31	−20[e]	1	37[e]	0.50	−0.28	0.25	4.0	3				w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4								0.55		0.55	4.5	1	20	0	11	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	9.9[b]	−8.9	47	18†	−26[d]	2	44[d]	0.70	−0.13	0.55	7.0	2	6	10	15	nw.	J. G. Lamont.
Eckman	Bottineau		14	12.3[b]	−9.8	38[b]	31	−29[b]	5	45[b]	0.57	+0.12	0.20	6.0	4	15	11	5	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	21.6	−4.9	49	28	−20	5	33	0.73	−0.16	0.61		4	5	14	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	21.2	−4.4	52	28	−22	5	28	0.71	−0.56	0.57	0.3	5	7	12	12	se.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7								0.54		0.34		7	7	18	6	se.	N. W. Solenberger.
Epping	Williams	2,224	11								1.03	+0.60	0.45	11.0	4	18	7	6	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	15.5		41	31	−25	5	38	0.70		0.30	4.0	4	13	7	11	sw.	G. T. Seymour.
Forman	Sargent	1,249	27	24.6	−0.9	52	24	−22	2†	32	0.48	−0.44	0.12	2.0	6	17	6	8	n.	R. P. Williams.
Fryburg	Billings	2,790	1								0.86		0.80	6.5	2	6	11	14	nw.	Verne King.
Fullerton	Dickey	1,439	21	21.7	−3.5	51	28	−19	5	32	0.74	−0.54	0.66	0	2	11	6	14	s.	F. O. Alin.
Garrison	McLean	1,901	24	15.8	−5.9	46	18	−30	5	40	0.61	−0.45	0.22	6.2	5	11	11	9	se.	G. L. Robinson.
Grafton	Walsh	827	27	17.3	−1.9	42	31	−25	5	38	0.57	−0.14	0.28	2.5	3	16	9	6	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	19.0	−3.4	43	31	−20	2	31	0.71	−0.03	0.30	1.2	7	13	9	9	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	21.4		52	28	−22	5	30	0.35		0.25	0	2	15	7	9	s.	G. E. Pooley.
Granville	McHenry	1,504	12	15.4	−8.3	42	31	−24	5	30	1.52	+1.04	0.50	15.0	6	12	9	10	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14			35[m]	18	−27[m]	2	33[m]	1.11	+0.46	0.40	9.0	5					J. Moffatt.
Hansboro	Towner	1,597	11	11.8	−9.5	37	24	−28	5	35	1.22	+0.62	0.80	10.0	3	14	10	7	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	23.6	−4.0	60	28	−19	1	36	2.63	+2.00	2.60		3	23	4	4	se.	U. J. Downey.
Hillsboro	Traill	901	13	20.6	−4.1	44	24	−21	2	31	0.67	−0.17	0.29	3.0	5	11	13	7	s.	F. E. Mayall.
Howard	Williams	2,275	12	11.3	−9.5	42[b]	31	−28	4	38[a]	1.41	+0.23	1.20	12.6	4	14	12	5	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	20.8	−1.8	47	31	−23	5	34	0.55	−0.53	0.20	5.0	7	13	1	17	nw.	S. Calvelage.
Lakota	Nelson	1,579	18	14.8[a]	−4.7	40[a]	30	−24[a]	5	38[a]	0.55	−0.02	0.34	1.0	3	18	5	8	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	15.7	−7.3	46	31	−27	2	29	1.40	+0.61	0.80	6.0	3	17	2	12	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	11.6	−7.4	38	22†	−30	2	37	1.10	+0.23	0.40	10.0	7	16	7	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	18.6	−2.4	43	31	−22	2	31	0.16	−0.60	0.07	1.0	3	10	9	12	nw.	Reuben Gray.
Lisbon	Ransom	1,091	15	22.8	−3.8	48	29	−24	2	31	0.38	−0.19	0.20	2.0	5	6	9	16	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1								0.85		0.50	3.5	3				se.	Edw. Tapley.
McHenry	Foster	1,509	9	15.3		40	31	−21	2†	33	1.03		1.02	13.0	2	17	10	4	s.	P. E. Trudeau.
McKinney	Renville	1,640	25	14.6	−4.6	44	18	−32	5	35	1.10	+0.36	0.60	1.10	3	12	11	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	24.1		52	19†	−22	2†	35	0.75		0.40	3.0	5	14	8	9	se.	R. D. Markland.
Maddock	Benson	1,604	4	14.3		38	18	−25	4†	40	0.94		0.61		2	8	10	13	sw.	F. P. Cowing.
Mandan	Morton	1,644	5	18.6		51	31	−24	5	41	0.95		0.53	5.2	6					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	16.0[a]	−7.1	40[a]	18	−22[a]	5	33[a]	0.75	−0.07	0.25	5.2	6	10	6	15	sw.	P. B. Anderson.
Marmarth	Slope		10			67	28				0.30	−0.08	0.26	3.8	3	12	8	11	w.	S. P. Crane.
Mayville	Traill	975	23	22.0	−1.2	44	31	−17	5	31	0.74	−0.01	0.30		6	15	4	12	sw.	W. C. Gould.
Melville	Foster	1,590	21	18.2[e]	−4.1	42[e]	31	−19[e]	3	35[e]	0.40	−0.28	0.20	4.0	2				sw.	J. P. Kidder.
Milnor	Sargent	1,097	7																	Hj. Edman.
Minot	Ward	1,557	23	14.6	−6.8	48	19	−35	5	40	1.62	+0.90	1.00	16.2	3	12	10	9	nw.	W. I. Faris.
Minto	Walsh	820	26	19.6	−1.5	44	31	−19	2†	35	0.64	−0.21	0.33		4	15	3	13	se.	C. M. Evans.
Mott	Hettinger	2,424	12	20.0	−6.6	54	31	−25	5	41	1.09	+0.10	0.63	7.0	6	11	9	11	se.	O. H. Opland.
Napoleon	Logan	1,955	27	17.3	−4.0	46	31	−30	5	40	0.90	−0.05	0.50	7.0	3	11	4	16	s.	C. J. Hoof.
New England	Hettinger	2,400	25																	W. C. McKenzie.
New Salem	Morton	2,163	14	17.6	−6.9	51	31	−21	2	35	0.73	−0.23	0.30	6.0	5	11	7	13	se.	J. Christiansen.
Orange ‡‡	Adams	2,586	10	23.2	−5.3	56	31	−23	5	48	0.60	−0.31	0.40	6.0	1	6	12	13	se.	T. F. Young.
Park River	Walsh	998	15	16.7[b]	−5.4	42[b]	31	−19[b]	2	31[b]	0.20	−0.37	0.15		3				nw.	J. P. George.
Parshall	Mountrail		4								0.20		0.20	2.0	1	13	15	3	nw.	J. A. Johnson.
Pembina	Pembina	789	45	13.0	−3.0	42	29†	−30	5	50	1.98	+1.04	0.70	11.8	7	13	11	7	sw.	C. W. Shumaker.
Power	Richland	1,020	26								0.50	−0.22	0.32		2					J. A. Power.
Powers Lake	Burke	2,205	4								0.85		0.50	8.5	3	4	13	14	nw.	C. Frank.
Sanish	Mountrail	2,260	5																	E. H. Senechal.
Selfridge	Sioux										2.35	+1.33	1.20	8.0	6	8	15	8	se.	H. F. Solenberger.
Steele	Kidder	1,857	22	19.0	−3.1	45	31	−22	5	31	0.67	−0.26	0.52	4.0	3	18	6	7	w.	H. S. Wood.
Taylor	Stark	2,493	3	19.6[a]		51[a]	31	−18[a]	1	30[a]	0.08		0.08		2				nw.	H. Leutz.
Towner	McHenry	1,482	17	13.2	−6.0	41	18	−29	5	36	0.90	+0.02	0.60	9.0	3	17	8	6	sw.	B. Bagley.
Valley City	Barnes	1,245	1	19.3[a]	−6.8	41[a]	20	−23[a]	3	32[a]						8	9	14	nw.	Clariee Hansen.
Wahpeton	Richland	962	25	26.6	+0.4	57	19	−20	2	35	0.80	−0.14	0.24	2.0	6	20	0	11	nw.	F. E. Smith.
Walhalla	Pembina	966	12	15.6	−4.3	43	18	−22	2	39	0.80	+0.12	0.40	8.0	2	21	8	2	n.	Ivan Lee.
Westhope	Bottineau	1,508	13	12.6	−8.3	42	18	−28	5	39	0.50	−0.01	0.50	5.0	1	15	5	11	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	16.4	−5.2	52	31	−26	5	35	1.08	−0.40	0.53	7.0	7	8	14	9	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	11.6	−6.7	44	18	−38	2	46	1.80	+1.09	0.80	18.0	4	13	12	6	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	17.6	−7.5	53	31	−29	5	46	0.48	−0.20	0.30	5.4	7	10	8	13	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	23.1	+1.7	54	24	−19	5	32	0.74	−0.40	0.23	2.4	10	12	12	7	se.	U. S. Weather Bureau.
Averages				17.8	−4.8	67	28	−35	5	50	0.82	−0.01	2.60	6.2	4	12	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Ageney, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.

Daily Precipitation for March, 1919.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red	T.		.10				T.							.20	.20	.10	T.						T.	.10	T.							0.30
Ashley	Missouri																						T.		.18	.12							0.70
Beach	Lit. Missouri			.03											1.00	.75																	1.78
Berthold Agency	Missouri		.13			T.		T.						T.	*	.28	T.	.05					T.			T.	T.						0.46
Bierman	Lit. Missouri					T.			T.						.60	.30				T.							.03						0.93
Bismarck ***	Missouri	.12	T.	T.		T.	T.							.01	.58	.07	.01			T.			.33		.05		T.	T.					1.17
Bottineau	Mouse	.02		.15											T.	.25				T.													0.42
Bowbells ‖‖	Mouse			.30												.50																	0.80
Bowman	Grand														*	.41									.08		T.						0.46
Cando	Sheyenne			.19											.15								.30										0.64
Carson	Heart						.05								.20								.10		.10								0.45
Colgate	Sheyenne			.30											.50										.20								1.00
Cooperstown	Sheyenne	T.	T.	.20		T.								T.	.10			T.															0.30
Crosby	Mouse													.10	.10	.15				.10													0.45
Devils Lake ***	Sheyenne	T.		.94			T.								.34	.08	T.	T.					.82		.21			T.					1.49
Dickinson	Heart	T.	.08	.02										T.	.17	.24	T.										T.	T.					0.51
Donnybrook	Mouse	.05		.20		T.	T.		T.					T.		.25		T.															0.50
Dunn Center	Knife			T.										T.	T.	.55	T.			T.													0.55
Dunseith	Mouse	.15														.55																	0.70
Eckman	Mouse	T.		.17			T.							T.	.10	.20				.10													0.57
Edgeley	James	.07		.01												.61									.04								0.73
Ellendale***	James	.02	T.	.01		T.	T.		T.			T.		T.	.57								.07		.04	T.							0.71
Energy	Missouri	.03	.01	.01	T.	T.			T.					T.	.12	.34	.01			T.					.02	T.	T.	T.					0.54
Epping	Missouri	.18	T.												.20	.45				.20													1.03
Fessenden	James		T.		T.		T.								T.	.30	.10						.20		.10								0.70
Forman	Sheyenne	.10		.10											.12								.01	.06	.09								0.48
Fryburg	Lit. Missouri														.80	.06																	0.86
Fullerton	James									T.					T.	.66							T.		.08								0.74
Garrison	Missouri	.18	.01	T.						T.					.02	.22		.18		T.													0.61
Grafton	Red			.19																			.28	.10									0.57
Grand Forks ***	Red	.04	T.	.02			T.								.30		.02	.04					.12	T.	.17								0.71
Grand Rapids	James														T.										.10	.25							0.35
Granville	Mouse			.50										.20	.30	.40	.10			T.					.02								1.52
Hannah	Pembina			.40				.20								.20									.21				.10				1.11
Hansboro	Red			.80												.36									.06								1.22
Hettinger	Grand					.01									2.60										.02								2.63
Hillsboro	Red	.10		.20			T.																.03		.05	.29							0.67
Howard	Missouri												*	1.20	.10				.11					T.									1.41
Jamestown	James	.10		.05											.20		*	.10							*	.10							0.55
Lakota	Sheyenne														T.	.04							.34		.17								0.55
Lamoine	Missouri													T.	*	.60							.80		T.								1.40
Langdon	Pembina	T.		.20			.05								.10	.20							.40		.10			.05					1.10
Larimore	Red															.05							.04		.07								0.16
Lisbon	Sheyenne		.20	T.																			.10	.04	.02	.02							0.38
McClusky	Missouri		.25															.10					.50										0.85
McHenry	James	.01					T.			T.										T.		1.02											1.03
McKinney	Mouse			.40												.60				.10						T.							1.10
McLeod	Sheyenne	.10					.10	.10								.40							.05										0.75
Maddock	Sheyenne															.61							.33										0.94
Mandan‖‖	Missouri	.12	.01				T.									.53		T.					.22		.04		T.	.03					0.95
Manfred	Sheyenne	.06	T.							T.				T.	.05	.15	.15					.25		.09									0.75
Marmarth	Lit. Missouri					T.			T.					T.	.26	.03				T.							.01	T.					0.30
Mayville	Red	.10														.12	.05	.05						.12	.30								0.74
Melville	James	.20		T.											.20			T.					T.											0.40
Milnor	Red																																
Minot	Mouse			1.00											.02	.60																	1.62
Minto	Red	.01		.18			T.																.12		.33								0.64
Mott	Cannon Ball					.04								.03	.63	.02									.33					.04			1.09
Napoleon	Missouri	.15													.50									.25									0.90
New England ‖‖	Cannon Ball																																
New Salem	Heart	.12	T.											T.	.30	.20	T.						.03		.08		T.						0.73
Orange	Cannon Ball														.60																		0.60
Park River	Red															.01							.15		.04								0.20
Parshall	Missouri														.20																		0.20
Pembina ‖‖	Red		.48						.10	.02									.04					.70	.60					.04			1.98
Power	Missouri																						.32		.18								0.50
Powers Lake	Sheyenne														.20	.50	T.			.15													0.85
Sanish	Missouri																																
Selfridge	Missouri	.12				.20									1.20	.60							.18		.05								2.35
Steele	Missouri	T.					T.			T.			T.	T.	*	.52								.15										0.67
Taylor	Heart													T.	*	.08																	0.08
Towner	Mouse			.60										.20				.10							T.								0.90
Valley City	Sheyenne																																
Wahpeton	Red	.24													.20									.14	.05	.12	.05						0.80
Walhalla	Pembina			.40																			.40										0.80
Westhope	Mouse			T.											T.	.50													T.				0.50
Williston ***	Missouri	.06	.18	.35			T.		T.	T.				T.	.15	.25	.03			.06						T.								1.08
Willow City	Mouse	.10		.80			T.								.10	.80		T.		T.					T.								1.80
Zap	Knife	.02				.02								.01	.30	.08	.03	.02						T.									0.48
Moorhead, Minn ***	Red	.06	.01	.04			.06								.23		.02	.05					.11		.10	.06							0.74

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	4	14	8	12	15	24	35	38	37	32	36	30	27	37	34	31	30	47	39	29	37	41	45	48	36	29	37	46	43	42	48	32.6
	Minimum ...	−14	−24	− 2	−16	−21	−19	8	3	3	10	10	17	11	11	24	18	16	14	20	20	10	15	31	30	32	14	14	17	29	26	22	10.6
Ashley	Maximum...	− 5	3	10	3	8	26	31	32	25	24	41	33	26	30	32	27	28	42	39	23	32	42	36	42	34	25	38	36	36	37	50	29.1
	Minimum ...	−19	−18	− 3	−18	−17	− 1	0	0	7	5	13	20	9	25	19	7	6	13	22	3	7	30	30	32	27	18	16	27	28	23	23	10.8
Beach	Maximum...	−11	5	7	16	28	26	20	36	22	40	46	38	19	33	20	20	37	45	36	35	39	43	45	35	28	45	46	39	45	40	41	31.1
	Minimum ...	−23	−18	−14	−14	10	8	2	5	3	1	5	11	5	14	10	4	12	29	9	11	7	13	16	19	14	18	23	18	24	21	20	8.5
Berthold Agency	Maximum...	− 5	6	5	1	12	24	30	36	28	36	46	40	13	30	28	22	27	53	45	27	40	40	39	38	38	29	36	44	35	40	55	30.3
	Minimum ...	−15	−25	− 4	−24	−31	4	−14	−12	12	8	9	8	1	12	19	4	− 6	14	18	−11	14	28	29	33	22	17	15	20	30	23	26	7.2
Bismarck	Maximum...	− 5	6	8	3	8	23	28	22	26	29	46	35	27	31	31	25	25	49	35	22	36	37	36	42	34	25	38	36	36	37	50	28.4
	Minimum ...	−17	−21	−14	−15	−25	8	− 6	− 6	2	4	19	6	6	27	19	11	7	18	12	0	13	32	26	34	24	19	19	26	27	23	26	9.8
Bottineau	Maximum...	− 3	− 2	1	− 4	3	17	20	24	28	20	25	24	16	25	31	28	16	38	39	17	31	38	36	35	34	25	28	30	31	30	35	23.1
	Minimum ...	−17	−25	− 8	−25	−27	− 9	−11	−11	3	− 7	0	6	0	10	23	7	− 5	2	16	−12	− 1	23	12	26	23	2	1	24	26	20	16	2.6
Bowbells §§	Maximum...	−12	2	− 2	− 4	− 5	18	25	35	30	35	34	12	18	24	21	18	33	40	20	18	35	30	27	31	35	31	22	29	30	35	40	22.7
	Minimum ...	−28	−24	− 9	−22	−20	−16	− 8	0	7	5	5	2	− 9	− 6	18	0	− 7	− 4	0	−10	4	11	8	6	10	2	11	6	23	20	15	− 0.3
Carson	Maximum...	− 6	3	6	9	10	20	32	25	25	36	45	39	30	30	35	27	32	50	40	32	33	35	36	45	44	45	40	35	40	40	52	31.1
	Minimum ...	−18	−20	−12	−19	−18	5	2	0	1	2	16	10	3	20	15	3	5	20	20	0	10	30	30	33	35	18	10	20	24	20	20	9.2
Crosby	Maximum...	− 8	1	0	− 3	8	21	20	21	20	23	33	28	9	28	24	17	17	39	34	17	35	33	35	36	33	23	33	33	33	33	41	23.1
	Minimum ...	−16	−21	−21	−21	−22	3	− 3	− 1	3	5	14	9	− 3	9	16	3	− 1	17	8	− 9	15	16	16	18	16	7	8	28	29	22	27	5.5
Devils Lake	Maximum...	− 3	3	2	3	36	18	22	27	26	22	32	21	22	28	33	19	21	33	33	15	32	36	32	40	33	20	30	34	32	31	40	24.0
	Minimum ...	−16	−21	−15	−21	−21	− 6	− 2	0	− 3	1	14	2	− 1	22	16	5	5	6	5	− 4	1	25	26	32	11	1	7	26	20	16	18	4.8
Dickinson	Maximum...	− 3	3	2	5	20	25	29	32	27	37	47	38	16	31	30	25	34	47	42	29	39	36	38	37	33	26	38	49	38	42	55	30.5
	Minimum ...	−25	−17	− 9	−17	−26	9	− 1	− 4	8	10	18	12	4	16	17	10	10	26	19	0	18	26	26	33	21	17	23	24	29	24	25	10.7
Donnybrook	Maximum...	− 3	− 3	4	5	27	23	26	33	27	....	43	34	12	....	30	23	27	....	24	23	37	34	35	40	35	37	34	32	34	37	44	°26.9
	Minimum ...	−20	−16	− 6	−17	−10	− 9	2	3	7	....	20	6	− 4	....	19	5	2	....	15	− 3	10	26	16	30	23	10	10	25	27	22	23	° 7.7
Dunseith	Maximum...	− 1	4	1	0	3	11	25	25	29	29	29	31	35	30	31	38	21	47	47	17	28	42	42	40	38	24	29	29	37	38	30	26.6
	Minimum ...	−19	−26	−12	−21	−24	−14	− 8	− 9	4	3	2	− 2	− 5	3	6	11	− 4	3	14	− 4	− 1	25	13	26	20	− 1	− 2	....	....	....	....	−°0.8
Edgeley	Maximum...	− 3	5	10	5	11	28	31	35	28	27	44	40	30	28	34	30	26	42	40	35	36	40	38	42	41	40	38	49	45	40	45	31.6
	Minimum ...	−19	−19	− 3	−15	−20	− 5	16	4	10	7	11	18	11	24	22	13	9	13	19	7	11	30	29	33	28	14	16	26	29	24	21	11.7
Ellendale	Maximum...	− 3	9	13	0	6	24	28	30	28	24	36	29	28	35	35	28	28	41	37	23	37	44	38	46	35	27	36	52	41	37	47	29.6
	Minimum ...	−15	−17	− 9	−12	−22	1	10	9	21	8	9	14	14	24	17	14	13	16	18	11	16	32	32	33	27	16	18	27	28	25	23	12.9
Fessenden	Maximum...	− 3	4	5	0	8	23	24	32	29	25	38	32	15	26	31	24	22	40	36	25	32	36	33	38	34	25	31	36	34	32	41	26.0
	Minimum ...	−19	−24	− 7	−22	−25	− 3	− 5	− 6	0	4	14	5	− 3	10	21	10	4	4	17	−10	2	27	17	30	20	4	6	24	25	15	21	5.0
Forman	Maximum...	8	7	13	6	10	29	32	33	32	29	39	40	31	32	37	30	32	50	49	34	39	46	45	52	49	32	39	50	50	40	49	34.3
	Minimum ...	−18	−22	− 7	−17	−22	− 3	18	11	22	10	17	24	19	27	28	15	15	20	30	14	15	31	31	35	30	16	15	27	30	27	21	14.8
Fullerton	Maximum...	− 2	12	8	0	8	29	29	27	28	25	37	30	27	35	29	27	29	41	38	31	37	43	38	45	35	27	37	51	39	36	47	29.8
	Minimum ...	−18	−18	− 2	−16	−19	− 3	17	12	17	6	9	18	13	24	24	11	14	15	27	10	14	32	32	34	27	15	21	28	28	25	24	13.6
Garrison	Maximum...	− 6	3	5	− 1	10	21	25	26	23	26	40	33	14	27	26	22	22	46	40	22	35	35	33	37	35	27	32	34	34	36	45	26.0
	Minimum ...	−24	−23	− 5	−23	−30	3	−12	− 7	5	3	11	7	− 2	13	20	5	− 5	9	20	−12	8	27	19	31	19	13	7	24	30	20	21	5.5
Grafton	Maximum...	2	6	5	5	8	18	29	34	33	30	33	24	20	30	36	33	24	37	35	19	33	34	34	38	36	25	32	34	34	33	42	27.0
	Minimum ...	−19	−24	− 7	−19	−25	−20	6	− 4	0	3	13	7	0	16	28	16	8	9	16	1	8	30	29	30	19	9	12	29	28	17	21	7.6
Grand Forks	Maximum...	2	4	7	3	8	21	30	32	28	25	35	26	28	32	37	26	25	40	34	20	34	35	36	42	33	24	33	41	38	34	43	27.6
	Minimum ...	−13	−20	−13	−17	−18	−10	7	4	7	9	16	11	7	24	26	14	12	12	12	6	12	32	31	33	17	12	13	27	28	22	23	10.5
Granville	Maximum...	− 5	20	10	0	5	0	25	28	28	28	18	20	16	33	30	20	22	42	30	20	33	30	31	36	30	33	35	34	33	40	42	24.7
	Minimum ...	−22	−10	−18	−23	−24	−10	0	0	0	0	5	10	− 2	16	15	8	10	22	8	− 5	8	25	12	30	5	12	28	28	23	20	22	6.2
Hannah	Maximum...	− 4	0	3	− 5	5	17	19	25	24	26	29	18	20	30	35	29	20	35	....	....	....	....	....	....	....	....	....	....	....	....	....	[m]18.1
	Minimum ...	−14	−27	− 8	−27	−27	−15	− 7	− 8	− 6	− 3	4	− 2	− 6	20	23	12	0	4	....	....	....	....	....	....	....	....	....	....	....	....	....	[m]−4.8
Hansboro	Maximum...	0	3	− 4	− 5	7	17	19	26	31	26	24	20	11	24	34	34	20	35	37	13	28	35	33	37	32	25	31	28	29	28	34	23.0
	Minimum ...	−21	−27	−11	−24	−28	−18	− 8	− 7	− 3	− 1	4	− 1	−10	8	22	8	− 5	− 2	10	−13	10	22	22	26	10	− 4	− 1	16	23	15	8	0.6
Hettinger	Maximum...	− 5	9	5	10	20	32	30	34	35	43	53	37	21	32	23	30	41	54	38	30	42	42	43	44	38	35	42	60	38	45	57	34.1
	Minimum ...	−19	− 9	−11	−11	− 5	2	5	− 3	5	13	17	19	10	21	15	7	22	24	16	4	18	29	28	32	26	21	22	33	18	28	27	13.0
Howard	Maximum...	....	3	10	10	12	10	19	15	26	7	14	12	10	28	23	24	36	30	14	26	36	35	35	36	26	22	32	33	36	38	42	[b]23.3
	Minimum ...	−18	− 5	−18	28	−20	−23	− 5	− 4	0	− 1	3	5	− 3	3	− 9	− 7	16	− 6	−14	−11	0	12	0	20	16	− 1	1	1	22	18	18	18	− 0.7
Jamestown	Maximum...	− 3	4	7	0	9	25	30	35	32	28	40	36	22	28	34	27	23	41	37	25	35	40	37	42	40	30	31	45	44	36	47	29.3
	Minimum ...	−12	−12	0	− 9	−23	1	− 3	1	9	6	17	18	10	22	23	16	9	11	24	5	16	32	29	33	28	12	18	26	30	23	24	12.4
Lakota	Maximum...	....	0	− 2	− 1	0	21	22	26	26	33	33	27	16	27	33	30	29	39	33	25	31	34	34	39	33	33	36	29	33	40	34	[a]26.4
	Minimum ...	....	−23	−20	−22	−24	−13	−15	− 8	0	8	8	6	− 1	15	27	19	− 1	1	5	− 6	0	28	24	30	3	5	3	5	7	19	17	[a] 3.2
Lamoine	Maximum...	− 8	1	5	− 4	1	20	19	25	22	21	36	31	16	25	30	21	25	39	35	19	30	34	32	34	32	25	31	34	46	34	46	24.4
	Minimum ...	−26	−27	− 6	−22	−26	− 1	− 3	− 1	− 3	3	7	11	1	16	21	9	7	13	19	− 9	11	27	22	31	18	8	21	21	34	20	20	7.0
Langdon	Maximum...	3	4	2	0	5	18	19	26	21	21	28	19	21	30	33	21	24	36	29	19	25	38	37	36	26	28	30	32	33	38	23.5
	Minimum ...	−25	−30	−20	−27	−27	−10	− 5	10	−11	− 1	5	1	−14	− 3	9	4	− 2	− 1	17	−15	12	15	25	29	20	− 4	0	25	10	10	14	− 0.3
Larimore	Maximum...	3	6	7	4	10	20	30	32	32	24	37	30	25	30	36	25	26	37	34	21	33	34	34	40	34	24	34	40	37	33	43	27.6
	Minimum ...	−13	−22	− 3	−18	−18	−11	0	5	10	6	17	7	3	22	25	12	7	9	19	1	8	30	28	30	22	10	12	24	27	20	25	9.5
Lisbon	Maximum...	10	0	6	11	16	15	18	24	30	32	28	33	36	32	35	37	40	38	42	40	42	47	44	42	43	35	38	42	48	42	40	31.8
	Minimum ...	−16	−24	−17	−20	− 6	− 7	− 2	6	11	9	12	10	16	15	12	16	18	16	25	28	30	36	35	33	32	16	22	29	28	30	31	13.7
McHenry	Maximum...	− 3	0	− 7	− 9	− 3	25	25	30	24	21	38	18	23	29	30	23	22	37	34	20	30	32	35	38	32	22	30	38	30	33	40	23.8
	Minimum ...	−11	−21	−20	−18	−21	−11	15	2	0	2	14	8	− 1	21	20	3	6	6	6	− 6	7	20	27	32	22	4	8	27	26	25	20	6.8
McKinney	Maximum...	− 4	0	0	− 3	0	19	10	30	25	28	36	30	11	25	25	22	17	44	36	18	35	37	37	37	35	25	33	30	30	41	41	24.2
	Minimum ...	−12	−20	−10	−20	−32	− 9	−10	− 5	− 2	1	10	5	− 5	10	20	4	− 2	10	15	− 7	5	25	18	29	32	6	5	25	25	22	22	5.0
Maddock	Maximum...	− 5	1	4	− 1	6	18	18	37	27	26	35	34	15	26	32	28	27	38	36	20	31	36	34	38	33	26	31	33	33	29	35	25.2
	Minimum ...	−18	−23	− 3	−25	−25	− 9	−11	− 3	− 4	− 1	15	4	− 3	13	25	10	1	2	19	−11	− 1	27	13	30	20	− 3	− 3	24	27	9	9	3.4
Marmarth	Maximum...	0	20	8	7	33	31	31	38	32	40	58	43	23	32	24	30	47	56	45	40	47	41	53	45	32	31	51	67	48	46	60	37.4
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	37	15	6	20	26	25	31	21	18	24	26	28	26	28	[a]23.6
Minot	Maximum...	− 5	− 1	5	− 4	5	12	24	29	32	26	28	41	15	22	32	32	25	45	48	25	34	34	35	37	38	20	22	35	35	37	39	25.9
	Minimum ...	−17	−24	−15	−25	−35	− 6	−15	− 6	0	− 5	16	3	− 6	9	20	2	− 3	5	16	− 8	11	16	19	28	18	5	9	24	25	19	19	3.2
Mott	Maximum...	− 6	5	4	10	20	25	33	30	30	35	50	33	22	28	22	28	36	52	36	32	34	38	37	32	35	33	42	44	46	50	54	31.3
	Minimum ...	−14	− 9	− 8	−18	−21	7	− 2	− 7	7	9	17	16	6	14	15	6	8	15	14	2	21	25	20	14	15	14	13	22	22	25	25	8.8
Napoleon	Maximum...	− 6	6	9	− 2	10	23	25	33	24	23	36	34	25	28	32	28	20	42	32	24	32	37	36	44	40	28	38	44	35	37	46	27.5
	Minimum ...	−19	−23	− 4	−23	−30	− 3	0	− 4	2	4	10	12	4	22	16	7	3	8	18	− 5	4	28	20	30	24	14	13	24	25	20	22	7.1
New England §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
New Salem	Maximum...	− 7	3	4	6	3	24	29	29	29	38	45	29	19	29	28	28	29	48	30	22	29	35	34	40	35	28	36	45	35	37	51	28.1
	Minimum ...	−18	−21	−15	−17	−19	1	− 5	− 6	3	12	18	4	− 1	14	10	4	4	18	16	− 4	4	28	22	30	20	16	15	26	19	19	22	7.1
Orange	Maximum...	− 6	5	4	9	15	30	37	32	34	32	49	40	24	32	27	29	43	54	46	28	40	41	40	46	37	28	46	55	49	45	56	33.8
	Minimum ...	−12	−13	− 1	−14	−23	8	5	10	6	10	14	22	7	21	16	6	6	21	23	5	17	30	27	34	23	21	23	25	28	22	25	12.5
Park River	Maximum...	0	5	1	0	4	19	28	31	30	28	31	29	15	27	....	....	32	37	38	21	33	38	32	39	32	24	30	33	32	29	42	[b]25.3
	Minimum ...	−14	−19	− 3	−18	−18	−12	5	2	1	8	17	7	−10	15	....	....	7	7	20	1	8	31	29	32	32	8	12	25	28	18	20	[b] 7.9
Pembina §§	Maximum...	− 4	− 2	−12	−10	20	28	24	32	26	24	14	26	12	32	38	30	34	20	18	28	26	28	38	24	22	28	34	38	42	38	42	23.4
	Minimum ...	−18	−12	−26	−24	−30	−12	2	0	2	0	− 3	−10	− 4	2	12	18	10	18	10	− 2	5	10	12	18	8	4	12	14	18	20	16	2.5
Steele	Maximum...	4	2	4	− 3	7	27	23	24	25	25	38	30	25	35	41	23	35	38	40	29	36	37	35	36	41	36	38	39	37	36	45	28.0
	Minimum ...	− 6	− 4	− 3	−20	−22	4	4	5	8	12	13	2	5	12	15	12	7	8	25	− 2	15	18	20	20	28	12	12	24	26	20	24	9.0
Towner	Maximum...	− 3	1	3	− 3	− 1	19	22	31	31	24	33	22	13	27	31	22	15	41	35	21	32	38	33	34	34	32	34	32	31	31	35	22.4
	Minimum ...	−15	−25	− 6	−22	−29	− 8	−14	− 4	− 3	− 4	4	5	5	13	22	9	3	5	16	− 7	3	24	12	31	21	28	17	28	17	28	4.2
Valley City	Maximum...	7	9	3	5	21	26	28	28	27	29	28	27	29	30	33	39	35	38	40	41	36	38	39	40	34	31	33	34	31	32	....	°27.7
	Minimum ...	−12	−18	−23	−15	−11	− 2	4	9	6	4	8	12	15	18	20	26	20	19	15	10	25	27	31	34	29	10	15	19	18	15	....	[b]10.1
Wahpeton	Maximum...	5	4	18	10	10	25	30	34	34	30	45	46	36	32	40	38	35	54	57	50	35	45	45	57	55	36	35	46	51	45	45	36.7
	Minimum ...	−12	−20	− 5	−13	−17	0	17	25	17	16	20	25	23	25	30	20	20	30	35	15	14	30	32	32	32	16	15	28	32	27	25	16.1
Westhope	Maximum...	− 3	3	0	− 1	0	21	24	22	23	27	29	12	16	28	30	30	28	42	30	27	32	35	30	38	30	25	31	25	31	32	38	22.4
	Minimum ...	−12	−25	−10	−24	−28	10	−14	− 7	0	− 5	− 7	2	− 4	12	16	1	4	20	20	−12	0	11	10	20	20	− 1	1	12	25	23	16	2.8
Williston	Maximum...	−10	4	3	− 1	9	20	23	24	18	31	43	29	18	31	24	18	28	48	31	26	42	36	39	40	27	25	36	34	33	41	52	26.5
	Minimum ...	−20	−17	−18	−20	−26	0	− 6	− 8	− 1	7	14	4	4	18	8	1	2	16	0	− 6	21	21	21	26	18	9	13	27	27	26	30	6.2
Willow City	Maximum...	− 2	4	0	− 3	0	21	17	23	33	23	29	13	14	23	30	23	28	44	25	20	33	40	30	35	32	31	34	32	32	31	36	23.6
	Minimum ...	−16	−38	−10	−32	−34	−15	−15	−17	− 8	−12	− 6	4	− 2	13	23	8	− 2	− 2	13	−17	− 4	26	8	29	21	− 4	− 9	23	25	20	14	− 0.5
Zap	Maximum...	− 6	2	6	4	10	28	34	29	28	33	49	35	14	29	28	22	28	50	38	23	38	37	37	39	34	29	34	41	34	37	53	28.8
	Minimum ...	−21	−25	− 8	−25	−29	5	−12	− 8	6	0	11	5	− 2	13	17	2	− 6	15	16	− 8	12	28	26	31	21	17	15	23	28	22	24	6.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 630 records.
Statute Miles
Kilometers
M.G.

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

APRIL, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
MAY 29, 1919.

Departure of the Mean Temperature from the Normal, April, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., APRIL, 1919. No. 4.

GENERAL SUMMARY.

The temperature averaged slightly above normal during the month, and there were no periods of unusually high or low temperature, although the day temperatures were considerably below normal during the first half of the month. There was slightly more than the normal amount of precipitation, and the bulk of it occurred during the first eight days of the month, most of it being in the form of snow, which fell on the 7th and 8th. This snowfall was heaviest over the southern and extreme eastern portions of the State, where it ranged from five to fifteen inches in depth. Cloudiness and humidity were excessive during the first half of the month, but about normal during the second half. As a result of these conditions the soil was generally too wet to be worked during the first half of the month, and spring wheat seeding was consequently much delayed. The weather of the latter half of the month, however was favorable, and plowing and wheat seeding made rapid progress. Winter rye came through the winter in good condition, and was favorably affected by ample soil moisture during the month. The break-up of the ice in the Missouri River occurred on the 5th. Although some gorges formed, and flood stages were exceeded at some points, no overflows of consequence occurred.

TEMPERATURE.

The mean temperature for the State was 42.3°, or 0.6° above the normal, and 0.9° higher than the mean for April, 1918. The highest mean reported was 45.8° at Forman, Sargent County, and at Wahpeton, Richland County; the lowest was 38.2° at Hannah, Cavalier County. The highest temperature reported was 79° at Berthold Agency, McLean County, on the 20th; the lowest was 6° at Bowbells, Burke County, on the 24th. The greatest daily range was 55° at Grand Rapids, LaMoure County, on the 22d. The greatest monthly range was 71° at Bowbells, Burke County; the least was 50° at Taylor, Stark County, and at Turtle Lake, McLean County. The highest temperatures were generally recorded during the period from the 17th to the 22d, inclusive, and the lowest on the 24th.

PRECIPITATION.

The average precipitation for the State was 1.50 inches, or 0.12 inch above the normal, and 0.65 inch less than the average for April, 1918. The greatest monthly amount reported was 4.23 inches at Hettinger, Adams County; the least was 0.55 inch at Towner, McHenry County. The greatest amount recorded in any twenty-four consecutive hours was 2.25 inches at Hettinger, Adams County, on the 7th. The average snowfall was 6.2 inches. The average number of days with 0.01 inch or more of precipitation was 6. Showers were frequent from the 1st to the 6th, inclusive, and heavy snowfall was general on the 7th and 8th; during the remainder of the month precipitation was light and scattered, but most of the showers during that period fell from the 19th to the 23d, inclusive, and on the 30th. The distribution of precipitation over the State was fairly uniform generally, ranging between one and two inches over most of the State, with scattered areas receiving over two inches, and a considerable area in the northeastern portion receiving less than one inch. —E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.02	30.74	24	29.25	5	57	8,366	11.6	48	w.	5
Devils Lake	30.00	30.78	24	29.15	5	44	8,915	12.4	48	ne.	7
Ellendale	29.98	30.71	24	29.20	5	56	11,612	16.1	54	w.	5
Grand Forks	30.00	30.78	24	29.10	5	90	.....	.....	37	w.	6
Williston	29.97	30.62	4	29.20	5	48	7,132	9.9	44	ne.	22
Moorhead, Minn	30.01	30.78	24	29.21	5	57	7,565	10.5	34	w.	5
Averages or extremes.	30.00	30.78	24	29.10	5	.....	.....	12.1	54	w.	5

* For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c.t.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	182.6	408.5	45	−14	82	54	54	15	21
Devils Lake	170.5	410.5	42	−14	84	62	65	24	17
Ellendale	235.1	407.2	58	.....	87	.....	65	30	25
Grand Forks	.....	.....	.....	.....	86	.....	70	.....	.....
Williston	242.8	410.5	59	+ 5	77	51	50	18	21
Moorhead, Minn	.....	.....	.....	.....	87	.....	62	.....	.....
Averages or extremes	207.8	409.2	51	− 8	84	56	61	15	21

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.

Climatological Data for April, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	41.9	−0.4	78	21	16	24	49	0.70	−1.29	0.60	7.0	2	11	13	6	n.	E. T. Carley.
Ashley	McIntosh	2,001	22	43.5[e]	+1.0	75[e]	18	18[e]	24	37[e]	1.50	−0.52	0.80	12.0	4	.....	.....	.....	sc.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	25	44.9	+1.2	79	20	19	24	44	1.30	+0.18	0.46	5.0	8	12	10	8	sc.	C. L. Hall.
Bierman	Slope	.....	3	43.6	.....	71	20†	15	10	34	3.70	.....	1.50	9.0	4	8	5	17	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	45	43.4	+0.8	76	18	19	24	36	1.71	−0.17	0.80	12.7	8	8	8	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	41.5	+2.1	73	20	13	24	35	0.74	−0.15	0.55	.....	8	9	8	13	ne.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	38.6	.....	77	20	6	24	53	1.48	.....	0.40	.....	6	16	3	11	.....	G. H. Phelps.
Bowman	Bowman	.....	5	42.8	.....	74	22	11	10	42	1.15	.....	0.35	4.0	8	8	11	11	nw.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	.....	.....	.....	.....	.....	0.99	+0.08	0.60	.....	5	.....	.....	.....	.....	J. M. Russell.
Carson	Grant	2,500	7	42.8	.....	75	18†	16	23	43	2.35	.....	0.50	10.0	10	12	10	8	nw.	J. W. Evens.
Colgate	Steele	1,177	5	42.0	.....	76	21	18	24	39	1.15	.....	0.80	9.0	4	14	8	8	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	1.20	+0.20	0.65	6.0	4	12	13	5	nw.	S. Friswold.
Crosby	Divide	1,954	12	42.1	+1.5	73	20	19	10	36	1.10	+0.08	0.30	3.0	6	13	7	10	e.	John Jensen.
Devils Lake	Ramsey	1,478	15	40.5	+2.3	72	18	18	24	33	1.14	−0.89	0.66	3.6	5	8	11	11	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	43.4	+0.5	78	20	13	10	38	1.28	+0.07	0.52	.....	10	9	10	11	.....	J. C. Thysell.
Donnybrook	Ward	1,760	20	43.4	+3.0	76	20	18	24	37	2.40	+1.45	0.79	0	8	7	17	6	e.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	43.1[d]	.....	76	20	18[b]	9	40[b]	1.25	.....	0.40	6.5	5	14	6	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	40.4[a]	0.0	76[b]	29	10	24	39[b]	0.98	+0.18	0.74	T.	6	7	11	12	ne.	J. G. Lamont.
Eckman	Bottineau	.....	14	40.8	−0.8	74	20	17	24	41	1.17	+0.14	0.60	2.0	8	17	4	9	ne.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	43.6	+0.4	75	21	17	24	41	1.29	−0.62	0.81	.....	4	5	13	12	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	21	42.8	−0.8	74	21	19	24	34	2.23	+0.23	1.44	10.1	10	8	8	14	ne.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	1.22	.....	0.37	.....	9	2	20	8	ne.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	1.15	−0.04	0.82	3.0	3	17	9	4	e.	M. E. Uggen.
Fessenden	Wells	1,610	7	40.4	.....	74	18	17	24	37	1.30	.....	0.50	3.0	5	13	8	9	nc.	G. T. Seymour.
Forman	Sargent	1,249	27	45.8[b]	+1.4	76[b]	22	19[b]	24	37[b]	1.70	−0.53	0.63	2.0	7	13	10	7	nw.	R. P. Williams.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	1.70	.....	1.12	8.5	6	6	18	6	nw.	Verne King.
Fullerton	Dickey	1,439	21	44.0	+1.2	74	26	19	24	39	1.51	−0.46	1.35	13.5	2	10	11	9	nw.	F. O. Alin.
Garrison	McLean	1,901	24	42.8	+0.2	72	19†	18	24	37	1.28	+0.10	0.50	2.0	6	13	8	9	nc.	G. L. Robinson.
Grafton	Walsh	827	27	42.0	+1.7	72	21	17	24	40	1.38	−0.11	0.70	5.3	4	13	4	13	ne.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	42.6	+0.6	72	21	19	24	35	1.73	−0.24	0.80	8.1	6	14	11	5	n.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	44.5	.....	78	21†	18	24	55	1.51	.....	1.00	4.0	5	12	6	12	ne.	G. E. Pooley.
Granville	McHenry	1,504	12	43.0	+0.5	75	20	18	24	38	0.61	−0.38	0.44	0.2	6	10	7	13	sc.	W. A. Christianson.
Hannah	Cavalier	1,568	14	38.2	−0.2	70	19	12	24	34	0.77	−0.55	0.37	4.0	3	12	7	11	n.	J. Moffatt.
Hansboro	Towner	1,597	11	39.9	0.0	77	29	10	24	40	1.53	+0.19	1.45	0.2	3	.....	.....	.....	ne.	C. E. Blackorby.
Hettinger	Adams	2,253	11	42.7	−2.1	75	18†	11	10	49	4.23	+3.50	2.25	8.0	9	18	3	9	nw.	U. J. Downey.
Hillsboro	Traill	901	13	41.6	−2.0	72	21	18	24	36	1.21	−0.90	0.60	8.5	8	8	15	7	n.	F. E. Mayall.
Howard	Williams	2,275	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	43.2	+0.7	75	18	20	24	37	1.14	−0.62	1.00	10.0	6	13	5	12	ne.	S. Calvelage.
Lakota	Nelson	1,579	18	42.2	+2.9	72	18	17	24	36	1.95	+0.39	1.05	9.0	4	18	4	8	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	41.8[a]	−0.8	73[a]	18†	16[a]	24	40[b]	1.38	+0.48	.....	8.0	4	13	3	14	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	23	39.0	+0.9	68	18†	14	1†	32	0.60	−0.77	0.30	3.0	3	17	3	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	41.7	+1.3	72	21	17	24	37	2.32	+0.77	1.30	15.0	5	11	9	10	n.	Reuben Gray.
Linton	Emmons	1,711	1	41.6	.....	75	22	20	17	42	1.21	.....	0.40	.....	7	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	15	44.0	+1.3	75	21†	12	24	45	1.08	−0.92	0.65	6.0	5	14	5	11	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	1.04	.....	.....	6.0	5	.....	.....	.....	.....	Edw. Tapley.
McHenry	Foster	1,509	9	41.0	.....	73	18	15	24	36	2.15	.....	0.80	9.0	5	11	12	7	ne.	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	41.9	+0.9	75	20	18	24	38	2.17	+1.34	1.08	4.0	4	12	12	6	ne.	N. P. Swenson.
McLeod	Ransom	1,075	7	44.6	.....	76	22	14	24	41	2.06	.....	0.55	1.5	10	9	10	11	se.	R. D. Markland.
Maddock	Benson	1,604	4	40.6	.....	71	18†	17	9	39	1.25	.....	0.51	.....	4	10	5	15	ne.	F. P. Cowing.
Mandan	Morton	1,644	5	43.0	.....	75	18†	18	24	38	1.31	.....	0.51	.....	11	10	6	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	42.2	+0.4	74	29	20	24	40	1.46	+0.20	0.48	2.0	9	11	8	11	ne.	P. B. Anderson.
Marmarth	Slope	.....	10	43.4	+0.6	73	20	11	9	36	1.11	+0.01	0.40	4.0	10	10	7	13	w.	S. P. Grane.
Mayville	Traill	975	23	43.1	−0.1	73	21†	19	24	38	1.17	−0.63	0.60	.....	6	15	4	11	nc.	W. C. Gould.
Melville	Foster	1,590	21	41.4[a]	+1.3	73[a]	19	20[a]	24	36[a]	1.25	+0.18	1.00	10.0	2	.....	.....	.....	ne.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman.
Minot	Ward	1,557	23	40.7	+1.0	76	20	13	25	39	1.56	+0.26	0.70	2.0	9	6	14	10	ne.	W. I. Faris.
Minto	Walsh	820	26	44.0	+3.4	73[a]	21	18	24	48[a]	1.62	+0.05	0.69	.....	6	13	10	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	12	42.6	0.0	73	20	19	10	40	2.01	+0.59	0.65	7.5	8	14	6	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	41.9	+0.4	76	18	14	24	41	1.27	−0.39	0.60	8.0	7	8	6	16	n.	C. J. Hoof.
New England	Hettinger	2,400	25	39.9[j]	−3.2	70[j]	19†	10[k]	10	38[m]	1.50	+0.55	.....	10.0	6	.....	.....	.....	.....	W. C. McKenzie.
New Salem	Morton	2,163	14	41.4	−1.1	73	19	15	24	39	1.63	+0.45	0.88	15.0	8	10	13	7	se.	J. Christiansen.
Orange †‡	Adams	2,586	10	43.4	+1.0	75	22†	18	24	40	1.53	+0.50	0.70	.....	5	2	18	10	nw.	T. F. Young.
Park River	Walsh	998	15	41.0[a]	−0.5	70[a]	19	17[a]	24	32[a]	0.67	−0.70	.....	5.5	4	.....	.....	.....	ne.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	43.5	+5.6	70	26	18	23†	35	0.70	−0.86	0.40	.....	3	10	11	9	.....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	40.2[d]	.....	75[d]	18	14[d]	24	38[d]	1.41	.....	.....	12.0	5	.....	.....	.....	.....	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	1.69	−0.18	.....	3.5	6	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.25	4.0	3	13	6	11	e.	C. Frank.
Sanish	Mountrail	2,260	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.42	+0.75	1.20	10.0	8	9	14	7	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	41.4[a]	.....	74[a]	19	10[a]	23	34[a]	2.07	.....	0.65	10.0	10	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	.....	.....	.....	.....	.....	.....	.....	1.30	+0.22	.....	12.0	3	.....	.....	.....	.....	H. S. Wood.
Taylor	Stark	2,493	3	41.4[e]	.....	68[e]	22†	18[e]	24	36[e]	2.52	.....	0.90	.....	6	.....	.....	.....	se.	H. Leutz.
Towner	McHenry	1,482	17	43.0	+1.6	73	18	15	24	36	0.55	−0.63	0.35	3.5	2	13	7	10	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	43.3	.....	75	29	25	23	35	1.13	.....	0.33	.....	8	.....	.....	.....	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clarice Hansen.
Wahpeton	Richland	962	25	45.8	+1.5	72	22†	18	24	39	2.54	+0.33	1.15	0	15	15	1	14	se.	F. E. Smith.
Walhalla	Pembina	966	12	42.2	+2.3	71	18†	12	24†	42	0.93	−0.37	0.90	9.0	2	12	14	4	n.	Ivan Lee.
Westhope	Bottineau	1,508	13	42.1	+2.4	72	18	20	23	40	0.97	−0.17	0.36	.....	5	15	7	8	ne.	W. A. Meddaugh.
Williston	Williams	1,875	40	43.6	+3.1	75	20	21	10	37	1.12	−0.11	0.34	2.4	9	6	14	10	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	40.7	+0.5	72	20	16	24	36	1.17	+0.23	0.85	1.0	4	11	12	7	e.	M. A. Ostby.
Zap	Mercer	1,800	6	43.1	0.0	75	20	17	24	39	1.57	+0.49	0.60	6.5	8	15	6	9	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	44.2	+2.8	75	22	20	24	35	2.06	−0.27	1.47	3.1	8	12	8	10	se.	U. S. Weather Bureau.
Averages				42.3	+0.6	79	20	6	24	55	1.50	+0.12	2.25	6.2	6	11	9	10	ne.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

†‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; Jolley, N. D.

Daily Precipitation for April, 1919.

Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖‖	Red		T.	T.					.60	.10												T.											0.70
Ashley	Missouri	.12					T.	.40	.80														T.								.18		1.50
Beach	Lit. Missouri																																
Berthold Agency	Missouri	.46	.03		T.	T.	T.	*	.06			.01	.03		T.						.31		.17						T.	.23		1.30
Biermau	Lit. Missouri	.80	T.					1.50	1.00						T.					.40						T.						3.70
Bismarck ***	Missouri	.08	.04			.09	T.	.80	.49			T.								.01	T.		.05				T.			.15		1.71
Bottineau‖ ‖	Mouse					.03	.55	T.	.05	.02				.03								.01		.04						.01		0.74
Bowbells ‖ ‖	Mouse		.40			.15	.32	.24					.15											.22								1.48
Bowman	Grand	*	.02			.34	*	*	.34			T.								.35								T.		.10		1.15
Cando	Sheyenne					.60			.06	.03											*	.15							.15			0.99
Carson	Heart	.30	.24			.07	.50	.50									.04				.22	.28							.16	.04		2.35
Colgate	Sheyenne					.15			.80	.10													.10									1.15
Cooperstown	Sheyenne					.15		.65												.10			.30									1.20
Crosby	Mouse	.05				.25	.20	.12	.30				.18																			1.10
Devils Lake ***	Sheyenne					.22	T.	.16	.06	T.	T.		.04										.66						T.			1.14
Dickinson‖ ‖	Heart	.30	.02	.07		.07	.02	.08	.52	.01				T.		.09						.10										1.28
Dunnybrook	Mouse	*	.30			.79	.35	T.	.20				T.	T.	.36						.25		.15									2.40
Dunn Center	Knife	.25			T.			.40	.30												.20	T.								.10		1.25
Dunseith	Mouse					.74	.07	T.					.08	.04	.03							.02		T.								0.98
Eckman	Mouse					.60	.17	.10	.05				.05						.05				.10							.05		1.17
Edgeley	James		.20					.81	.26																					.02		1.29
Ellendale***	James	.24	.01				T.	1.23	.36						T.	.06				.03		.01	.07				T.	.02	T.	.20		2.23
Energy	Missouri	.37	.02		T.	.14	.01	.30	.03			T.	.02		T.					T.	T.	.03							T.	.30		1.22
Epping	Missouri					.13			.20																					.82		1.15
Fessenden‖ ‖	James	T.	.10	.03			.50	T.	.40	T.			T.	T.	T.							T.		.27					T.	T.		1.30
Forman	Sheyenne	.15	.01					.63	.50	T.	T.				.13					.14		.14	T.									1.70
Fryburg	Lit. Missouri	.04	.26			.15	T.	1.12														T.	.06				T.			.07		1.70
Fullerton	James	.16	T.					1.35																									1.51
Garrison	Missouri	.30	.15			.02	T.	T.	.21			T.	T.		T.							T.	.50							.10		1.28
Grafton‖‖	Red								*	.70														.67	.01							1.38
Grand Forks ***	Red		T.			.12	T.	.70	.36	.01												.07	.47	T.				T.			1.73
Grand Rapids	James		.30					.10	1.00											T.			.01							.10		1.51
Granville	Mouse	T.	.02			.44	T.		.02				.05								.06		.02							T.		0.61
Hannah	Pembina						.37		.20															.20								0.77
Hansboro	Red				1.45				.06				T.	.02										T.								1.53
Hettinger	Grand	.45	.02					2.25	.50						.10					.24		.43	.04							.20		4.23
Hillsboro	Red		.11			.02	.12	.20	.60	.05												T.	.09	.02								1.21
Howard	Missouri																																
Jamestown ‖ ‖	James		.05				.03	.01	1.00	.02														.03								1.14
Lakota	Sheyenne					.25	T.	.60					.05										1.05	T.					T.			1.95
Lamoine	Missouri	.14	T.		.31		*	.80					.13																	T.		1.38
Langdon‖ ‖	Pembina						.20		.30				T.	T.	T.									.10									0.60
Larimore ‖ ‖	Red						.06		1.30	.30												.03		.63								2.32
Linton	Missouri	.40	.01				.09	.02	T.														.25				.14			.30		1.21
Lisbon	Sheyenne		.12	.16	T.			.05	.65	T.	T.	T.				T.	T.			T.		T.		.10						T.		1.08
McClusky	Missouri		.14		.15			*	.60														.15									1.04
McHenry	James					.50		.80	.10														.50						.25			2.15
McKinney	Mouse					1.08			.60				T.		T.						.30			.19								2.17
McLeod	Sheyenne		.06	.06		.02		.80	.15	.55	.03									T.		.16	.04							.19		2.06
Maddock	Sheyenne					.51	.03																.44	.27								1.25
Mandan‖ ‖	Missouri		.14	.03		.10	.01	.24	.51	.13										.04		.01		.06						.04		1.31
Manfred	Sheyenne		T.	.15			.44	.03	.15	T.	.05			.05									.48	.04					.07			1.46
Marmarth	Lit. Missouri	.01	.09			.05	.03	*	.40			.05			T.		T.			.36					T.		.08			.04		1.11
Mayville	Red		.30			.05		.10	.60	.10												.02										1.17
Melville	James					.25		1.00	T.				T.																	T.		1.25
Milnor	Red																																
Minot ‖ ‖	Mouse		.30	T.		.10	.70	.02	.20	.20				.01								.01		.02								1.56
Minto	Red					.02		.27	.69	.01													.58	.05								1.62
Mott	Cannon Ball	.65	.11					.57	.28											.12	.05						.02			.21		2.01
Napoleon ‖ ‖	Missouri	.25				.14		.20	.60											.03		.03								.02		1.27
New England ‖ ‖	Cannon Ball	.25					*	*	*	1.00											T.									.25		1.50
New Salem	Heart	.09	.03					.88	.52	T.	T.	T.			.01						T.	.01	.08							.01		1.63
Orange	Cannon Ball	.25						.70												.14			.11						.33			1.53
Park River	Red					.10		*	.55														.02	T.								0.67
Parshall	Missouri																																
Pembina ‖ ‖	Red								.40	.20														.10								0.70
Pettibone	James					*		*	1.20															.17						.04		1.41
Power	Missouri						*	*	1.36	T.	T.									.05	.02	T.								.26		1.69
Powers Lake	Sheyenne	1.25	T.			1.30	T.	T.	.40	T.				T.															T.			2.95
Sanish	Missouri																																
Selfridge	Missouri	.10					.10	1.20	.30										.06	.06			.33							.27		2.42
Sherwood	Mouse					.65	.40	.20	.40	T.		T.	.10	.04	.01								.20							.01	.06	2.07
Steele	Missouri	T.	.10					*	1.20																					T.		1.30
Taylor	Heart	.90	.10					.70	.60						.02						.20											2.52
Towner	Mouse					.35			.20																							0.55
Turtle Lake	Missouri	.12	.04	T.		.33	.01	T.	.29				T.										.09	.03	T.		T.			.22		1.13
Valley City	Sheyenne																																
Wahpeton‖ ‖	Red		.08	.05		.05	.05	.45	1.15	.03	.07	.09			.05					.08	.08	.21		.05				.05				2.54
Walhalla	Pembina					.03		T.	.90					T.										T.				T.				0.93
Westhope	Mouse					.36	.23		.20													.06								.12		0.97
Williston ***	Missouri	.06	.07			.30	.02	.16	.18	T.		T.	.04		T.								T.						.04	.25		1.12
Willow City	Mouse					.85	.14	T.	.10				.08	T.									T.						T.	T.		1.17
Zap	Knife	.62	.05			.25	.01	.02	.60			.01																		.01		1.57
Moorhead, Minn ***	Red		.12			.09		1.47	.10	.05	T.																			T.		2.06

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	51	43	54	61	53	54	33	41	35	38	41	56	53	54	50	53	64	71	65	72	78	73	36	46	58	52	56	65	69	62	....	54.
	Minimum...	22	29	33	30	25	37	32	30	29	28	30	28	34	33	31	19	27	28	38	36	48	34	24	16	16	19	33	26	26	37	....	29.
Ashley	Maximum...	43	42	46	61	56	53	37	..	..	..	39	47	44	42	45	50	57	75	67	70	73	71	50	41	45	50	58	63	68	58	....	[c]53.
	Minimum...	32	35	33	32	38	34	27	..	..	..	24	29	30	35	32	28	26	38	48	40	43	42	26	18	26	37	41	27	37	40	....	[c]33.
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum...	48	46	67	66	62	45	34	31	33	45	56	58	52	53	54	58	69	72	76	79	70	70	53	48	64	66	64	71	72	61	....	58.
	Minimum...	33	33	31	30	37	32	26	25	25	22	28	32	32	33	28	21	25	37	41	43	38	35	30	19	32	38	29	31	45	39	....	31.
Bismarck	Maximum...	45	39	42	66	55	42	36	30	33	36	48	49	46	48	49	54	63	76	72	74	73	64	44	45	57	58	60	66	75	57	....	53.
	Minimum...	34	34	35	32	38	36	27	27	26	28	24	34	32	36	29	27	27	40	51	46	42	37	25	19	29	42	37	32	39	38	....	33.
Bottineau	Maximum...	38	42	49	47	40	38	36	30	36	38	52	50	54	52	51	54	59	70	66	73	68	65	48	40	55	63	60	66	70	64	....	52.
	Minimum...	31	33	28	30	30	31	26	26	21	29	24	31	35	34	30	26	24	37	42	39	34	42	17	13	23	40	35	33	40	30	....	30.
Bowbells §§	Maximum...	42	38	52	50	41	34	30	29	32	43	52	45	52	52	50	55	60	69	75	77	65	62	40	41	57	65	60	70	65	60	....	52.
	Minimum...	23	31	30	29	33	28	22	21	20	18	18	30	28	32	28	25	22	22	24	24	23	24	8	6	20	25	32	33	38	33	....	25.
Carson	Maximum...	50	55	52	65	55	45	35	28	30	33	45	46	42	47	50	60	66	75	65	72	65	55	46	55	65	62	70	75	56	60	....	54.
	Minimum...	30	32	32	32	39	34	22	24	22	23	20	30	25	32	25	26	36	45	45	40	45	30	16	28	38	32	32	32	35	36	....	31.
Crosby	Maximum...	42	39	47	50	46	40	37	29	32	41	50	47	48	48	48	52	62	67	68	73	68	63	40	43	58	56	58	68	69	59	....	51.
	Minimum...	32	33	29	33	36	29	27	23	23	19	33	35	31	35	31	30	33	40	38	37	41	38	27	21	31	33	38	41	49	33	....	32.
Devils Lake	Maximum...	38	39	43	56	46	36	32	32	32	34	42	48	50	50	46	51	57	72	61	69	69	51	30	37	52	54	56	61	68	59	....	48.
	Minimum...	30	33	32	31	34	32	27	28	26	28	30	31	37	36	30	30	31	39	43	38	46	30	20	18	25	39	33	31	40	36	....	32.
Dickinson	Maximum...	50	54	50	67	54	42	29	30	37	41	54	50	50	50	54	55	61	72	78	74	70	69	60	44	57	65	51	67	70	63	....	55.
	Minimum...	38	34	33	33	32	34	27	24	20	13	26	32	29	32	29	24	23	35	40	38	37	38	29	20	32	36	39	33	33	43	....	31.
Donnybrook	Maximum...	42	40	53	55	49	40	35	31	36	43	54	51	54	49	55	56	62	71	73	76	68	62	46	47	58	65	65	65	70	64	....	54.
	Minimum...	32	33	32	32	35	33	26	26	24	26	29	36	36	37	28	26	30	53	39	39	39	36	23	18	24	32	38	38	34	33	....	32.
Dunseith	Maximum...	40	40	46	48	48	39	32	36	36	37	47	49	54	50	50	54	57	71	71	..	..	75	54	37	59	64	57	63	76	60	....	[b]51.
	Minimum...	21	32	26	27	35	30	28	25	22	27	21	30	34	34	27	25	27	35	39	37	35	36	15	10	20	38	32	33	39	31	....	29.
Edgeley	Maximum...	46	46	46	59	60	55	45	42	40	35	40	46	46	45	46	52	60	72	72	72	75	72	67	57	55	54	55	63	67	65	....	55.
	Minimum...	28	33	34	31	38	37	28	26	25	27	29	32	32	34	37	29	29	36	49	35	38	39	26	17	22	29	35	32	33	38	....	31.
Ellendale	Maximum...	46	47	46	62	58	43	37	32	31	33	41	50	48	48	47	50	57	70	66	70	74	70	46	43	55	48	58	62	65	53	....	51.
	Minimum...	28	37	36	30	42	36	31	30	27	29	31	32	34	37	32	31	31	38	47	39	49	41	26	19	21	38	35	28	34	39	....	33.
Fessenden	Maximum...	40	38	46	56	49	41	35	32	34	37	47	48	49	50	47	52	57	74	67	70	70	52	43	38	54	50	57	64	72	58	....	50.
	Minimum...	30	30	30	29	32	32	24	25	20	25	20	29	35	32	27	28	27	37	45	41	39	38	20	17	24	35	31	28	37	34	....	30.
Forman	Maximum...	49	47	48	63	63	58	47	37	36	39	43	57	54	52	49	..	62	70	68	73	74	76	57	46	57	53	..	66	70	70	....	[b]56.
	Minimum...	27	37	37	37	43	40	32	32	30	30	31	32	32	38	32	..	38	36	48	36	51	50	28	19	20	35	..	29	38	43	....	[b]35.
Fullerton	Maximum...	45	46	46	61	57	54	42	37	36	37	42	55	47	48	47	50	58	72	64	71	73	72	48	47	46	74	54	67	65	57	....	53.
	Minimum...	32	35	35	32	37	38	30	28	25	22	30	29	33	36	32	27	28	38	50	54	54	46	33	19	23	35	37	38	40	41	....	34.
Garrison	Maximum...	44	44	50	59	56	44	33	30	30	41	54	52	51	49	51	54	62	70	72	72	72	64	61	45	56	61	58	66	71	61	....	54.
	Minimum...	32	32	33	27	32	32	24	25	25	24	25	33	32	33	28	25	28	37	40	42	36	40	25	18	26	40	32	29	42	39	....	31.
Grafton	Maximum...	50	51	50	57	55	43	43	35	36	39	45	54	55	53	52	54	61	67	64	68	72	67	42	39	53	53	57	60	70	67	....	53.
	Minimum...	28	34	33	39	35	27	27	25	29	32	29	32	32	34	37	29	29	36	46	33	39	26	17	21	33	32	27	35	29	....	....	30.
Grand Forks	Maximum...	52	47	51	57	56	43	34	36	35	39	41	52	53	53	50	54	60	67	62	68	72	59	35	39	54	52	58	60	69	61	....	52.
	Minimum...	30	36	34	31	37	34	27	31	29	31	33	31	37	35	30	30	39	38	44	33	48	35	23	19	24	37	36	30	37	35	....	32.
Granville	Maximum...	40	37	50	50	47	39	35	32	34	37	53	48	55	53	52	55	63	73	70	75	69	53	38	42	58	63	67	68	68	70	....	53.
	Minimum...	32	32	30	28	34	33	27	27	24	30	43	32	35	37	27	27	30	47	40	52	37	38	30	18	28	37	35	30	32	35	....	32.
Hannah	Maximum...	34	36	40	42	40	37	34	35	36	37	39	48	52	52	57	60	57	54	70	67	69	54	41	39	48	52	56	60	54	48	....	48.
	Minimum...	24	27	26	31	33	34	25	24	25	24	27	32	34	28	27	26	28	25	36	40	37	32	20	12	14	27	28	31	36	30	....	28.
Hansboro	Maximum...	37	37	43	45	..	38	39	32	33	35	45	49	53	52	52	53	58	74	64	68	67	55	43	39	51	57	57	63	77	59	....	[a]50.
	Minimum...	25	30	26	35	..	32	25	24	22	25	23	28	45	32	26	28	26	37	37	37	38	32	15	10	20	37	26	27	37	33	....	[a]28.
Hettinger	Maximum...	54	39	53	56	72	60	38	29	36	43	39	52	53	45	48	53	63	75	73	72	70	75	57	34	41	66	62	64	75	68	....	55.
	Minimum...	39	35	33	32	34	31	22	22	16	11	27	22	24	33	26	21	26	26	42	42	40	40	32	20	30	30	35	32	38	37	....	29.
Howard	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Jamestown	Maximum...	46	41	47	58	51	48	39	34	32	34	41	48	47	48	46	51	59	75	70	74	71	72	50	42	54	53	56	64	70	64	....	52.
	Minimum...	30	35	34	33	37	37	28	29	26	28	31	32	35	35	32	31	30	38	48	40	45	40	25	20	24	37	37	31	37	40	....	33.
Lakota	Maximum...	39	41	56	56	53	45	38	30	36	..	41	50	50	..	..	51	60	72	66	68	69	66	44	36	51	51	60	61	68	62	....	[c]52.
	Minimum...	28	38	29	29	30	34	26	28	28	..	30	28	35	..	..	35	28	42	30	38	45	35	21	17	35	30	28	30	38	42	....	[c]31.
Lamoine	Maximum...	38	36	38	59	51	51	34	28	28	41	36	41	46	47	45	51	59	73	63	72	71	68	58	..	56	52	55	64	73	69	....	[a]51.
	Minimum...	32	32	34	28	32	34	26	25	24	19	28	28	35	41	27	25	38	38	46	48	40	28	22	16	..	38	32	30	38	36	....	[a]31.
Langdon	Maximum...	36	39	38	47	43	39	31	31	32	36	45	50	49	51	49	51	59	68	62	64	68	62	45	38	50	49	55	61	67	62	....	48.
	Minimum...	14	33	28	26	36	31	26	24	24	26	28	30	34	33	28	29	29	39	37	34	42	34	15	14	22	38	30	29	39	32	....	29.
Larimore	Maximum...	49	44	52	37	49	49	41	35	35	38	43	50	53	53	50	51	60	68	62	68	72	59	41	41	54	53	56	61	70	62	....	52.
	Minimum...	30	35	33	30	42	30	30	28	26	29	32	27	35	32	23	29	29	36	42	35	37	35	22	17	22	35	31	27	33	34	....	30.
Lisbon	Maximum...	48	42	47	62	46	50	48	42	45	45	44	52	50	50	43	50	59	70	72	73	75	70	46	49	50	55	64	67	75	64	....	55.
	Minimum...	28	39	36	38	39	39	29	28	30	30	32	32	32	36	30	26	28	32	45	42	56	46	28	12	18	30	30	22	35	37	....	32.
McHenry	Maximum...	38	42	36	39	56	40	30	29	32	36	40	38	50	45	56	51	54	73	67	66	70	56	42	42	56	53	65	63	68	70	....	50.
	Minimum...	21	32	31	31	34	30	28	25	25	28	27	29	35	35	30	29	27	39	46	47	50	42	20	15	25	37	40	30	33	34	....	31.
McKinney	Maximum...	42	42	51	48	40	38	31	33	36	41	54	48	55	50	52	55	60	70	73	75	67	60	50	45	59	68	60	60	70	62	....	53.
	Minimum...	30	32	30	30	30	30	25	27	20	29	29	34	30	35	28	25	30	32	36	40	41	40	22	18	26	22	32	30	40	37	....	30.
Maddock	Maximum...	36	37	43	50	46	38	35	32	33	35	46	47	48	49	48	51	56	71	71	70	68	67	45	37	51	52	56	60	71	71	....	50.
	Minimum...	28	32	30	28	32	32	26	27	17	26	23	31	35	34	30	28	28	36	44	39	40	36	20	18	25	35	32	29	40	32	....	30.
Marmarth	Maximum...	55	49	60	68	56	41	32	26	36	48	50	52	44	47	48	54	60	72	71	73	70	72	51	44	55	65	61	67	71	55	....	55.
	Minimum...	35	32	33	33	35	30	23	21	11	12	33	32	24	33	30	27	25	53	41	41	40	40	31	24	30	32	34	32	53	35	....	31.
Minot	Maximum...	40	38	51	51	53	40	35	30	32	37	55	52	53	52	51	55	65	73	70	76	70	68	45	43	58	63	60	69	72	60	....	53.
	Minimum...	27	28	25	25	32	27	21	21	19	22	20	28	31	32	23	22	23	38	38	40	34	32	19	13	22	32	30	30	43	32	....	27.
Mott	Maximum...	50	41	58	67	55	39	34	33	34	35	50	50	48	50	55	55	62	72	70	73	63	60	46	40	55	64	57	70	59	52	....	53.
	Minimum...	35	34	32	32	35	30	27	25	22	19	25	29	26	26	28	22	28	32	44	50	44	42	36	20	31	31	38	44	38	35	....	32.
Napoleon	Maximum...	40	41	45	63	60	52	40	30	30	32	40	45	44	44	46	52	60	76	68	72	73	68	55	44	56	53	60	66	72	67	....	53.
	Minimum...	32	34	32	28	40	35	26	25	23	24	27	28	30	32	25	24	21	37	46	37	43	35	26	14	25	37	36	25	35	38	....	30.
New England §§	Maximum...	..	..	..	..	..	..	..	38	28	35	48	46	42	46	48	50	62	..	70	68	70	66	36	..	40	48	60	62	62	54	....	[b]51.
	Minimum...	..	..	..	..	..	..	..	..	18	10	30	30	28	24	26	25	..	25	..	36	38	38	34	20	..	34	22	30	36	36	....	[b]28.
New Salem	Maximum...	49	57	55	46	55	51	35	34	31	35	40	48	44	51	49	50	62	71	73	71	69	62	58	48	45	61	72	68	70	63	....	54.
	Minimum...	27	29	26	24	33	32	22	22	21	23	29	24	22	27	25	23	27	37	47	38	39	32	25	15	28	37	36	32	31	29	....	28.
Orange	Maximum...	53	47	52	68	61	50	37	32	34	37	51	52	49	45	49	53	62	74	70	74	72	75	60	40	55	63	60	65	75	71	....	56.
	Minimum...	37	34	34	22	39	31	26	20	21	19	23	28	25	34	26	20	24	34	44	42	36	38	31	18	29	36	29	30	38	37	....	30.
Park River	Maximum...	50	..	48	57	57	41	49	32	33	37	43	53	53	56	52	51	60	68	70	57	59	57	40	24	41	41	45	49	57	57	....	[a]49.
	Minimum...	30	..	32	32	29	35	28	28	26	30	33	29	37	34	28	32	31	36	41	54	48	40	20	17	23	32	34	27	37	35	....	[a]32.
Pembina §§	Maximum...	44	44	46	49	43	37	41	36	41	41	51	49	51	49	51	54	62	62	68	64	68	52	38	41	61	70	69	69	68	66	....	52.
	Minimum...	22	34	32	31	36	32	26	32	31	31	34	38	36	34	32	34	32	41	38	48	46	38	18	18	26	41	40	41	44	41	....	34.
Steele	Maximum...	45	41	45	43	47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	68	73	75	74	67	.....
	Minimum...	38	40	36	34	35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	42	50	56	48	49	.....
Towner	Maximum...	40	39	52	49	42	37	36	33	33	37	54	54	54	50	59	55	61	73	70	72	67	67	50	43	58	56	58	65	67	60	....	53.
	Minimum...	30	32	36	28	37	32	28	27	22	25	25	31	36	35	26	45	47	37	45	42	39	35	23	15	36	30	33	36	38	35	....	32.
Valley City	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton	Maximum...	52	52	53	65	57	55	39	42	42	42	39	61	61	51	49	52	61	71	71	68	67	72	72	46	55	55	61	62	65	65	....	56.
	Minimum...	29	37	35	35	46	39	32	33	30	31	32	31	35	35	33	31	25	37	47	43	49	40	38	28	23	33	43	23	34	43	....	34.
Westhope	Maximum...	38	32	52	49	44	38	34	30	34	40	53	56	50	45	48	56	62	72	70	70	68	66	42	58	65	67	68	70	69	61	....	53.
	Minimum...	22	30	28	28	30	30	26	25	23	33	34	37	30	32	25	30	32	38	38	30	30	36	20	25	36	31	32	30	41	35	....	30.
Williston	Maximum...	42	30	53	56	45	35	33	30	36	47	54	47	50	50	55	57	66	70	70	75	68	70	46	46	59	66	61	72	66	57	....	54.
	Minimum...	33	33	29	34	35	30	26	25	25	21	34	34	30	37	31	29	38	43	40	41	37	33	25	22	35	36	35	41	43	40	....	33.
Willow City	Maximum...	48	39	47	42	43	37	32	34	35	37	51	46	48	50	50	55	59	70	68	72	68	53	34	41	54	58	58	65	70	61	....	50.
	Minimum...	28	32	25	25	33	32	28	27	23	30	26	32	35	34	30	29	28	36	41	41	36	34	20	16	26	40	34	29	41	32	....	30.
Zap	Maximum...	47	43	50	65	54	44	39	39	32	41	53	50	49	50	50	54	64	74	74	75	71	68	60	45	57	63	60	68	73	63	....	55.
	Minimum...	32	31	32	29	34	31	24	24	20	25	23	30	28	32	28	20	26	35	40	42	33	38	28	17	31	38	28	31	41	40	....	30.
.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a]. 1 day missing. [b]. 2 days, et


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 850 records
M.G.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

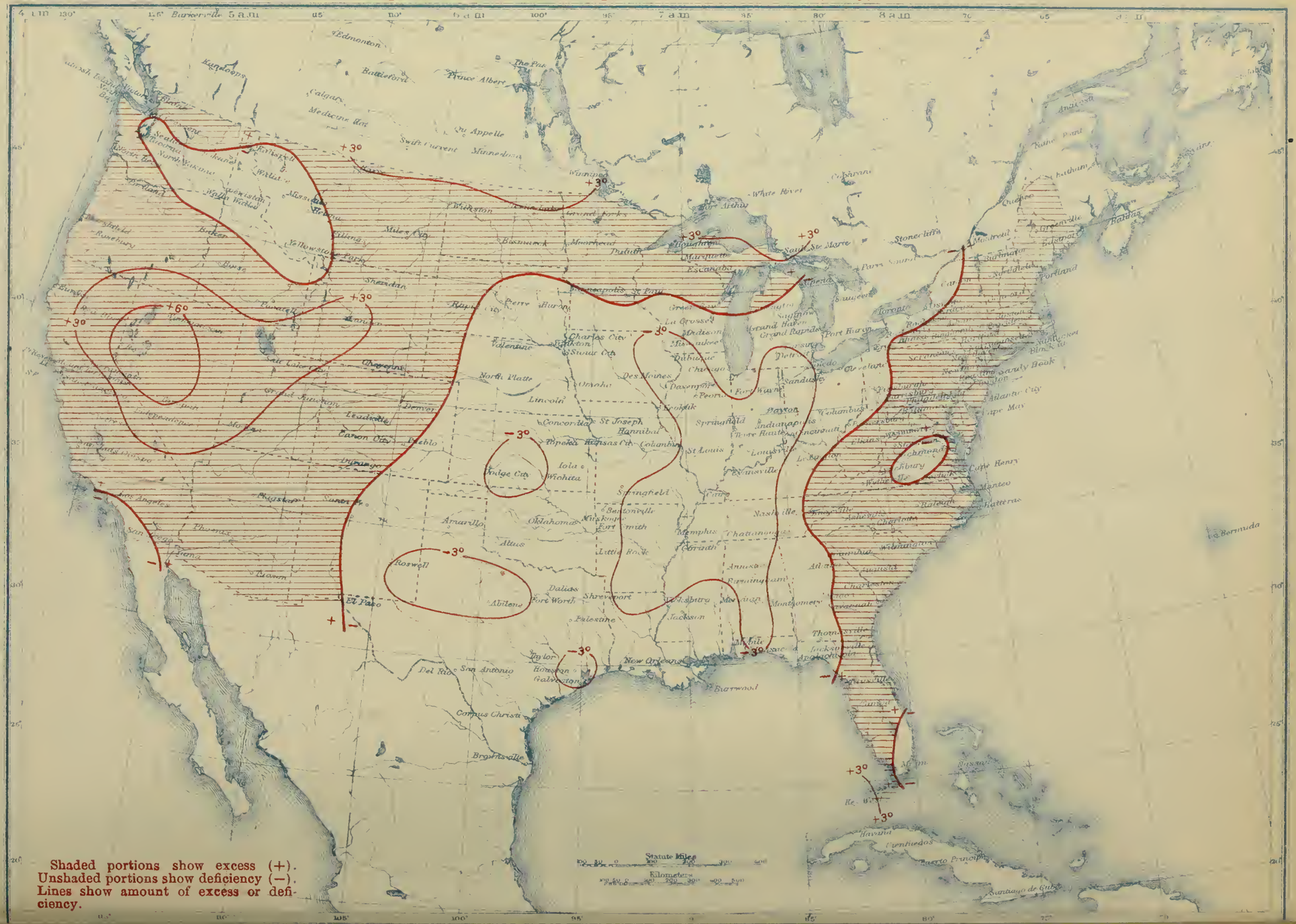
NORTH DAKOTA SECTION

MAY, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE

Departure of the Mean Temperature from the Normal, May, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., MAY, 1919. No. 5.

GENERAL SUMMARY.

During the first eight days of the month the weather was cool and generally cloudy, with frequent rains, the bulk of the precipitation of the month occurring during this period. Considerable snow fell in portions of the south-central part of the State during the period from the 3d to the 6th, inclusive, and there was considerable interruption to telegraph and telephone service over this section on account of the breaking of wires from accumulations of ice. The second week was considerably warmer, and there was less cloudiness, but showery conditions prevailed until the 18th. From the 19th to the 29th, inclusive, warm, rainless and generally clear weather prevailed, the period from the 23d to the 29th, inclusive, being especially hot and cloudless, averaging about 12° above normal, with nearly 100 per cent of the possible sunshine. It was considerably cooler on the 30th and 31st, and generous rains fell over the eastern third of the State, but the amounts decreased rapidly westward, the western half of the State receiving only light scattered showers. The rainy weather of the first eight days of the month stopped farm work generally, and showery conditions interfered considerably until the 18th, resulting in delayed planting and a somewhat decreased acreage of spring wheat and other small grains. Winter rye was unfavorably affected by the hot, dry weather of the latter part of the month, causing it to head short and thin in some western and central localities. Generally crops were up to normal condition at the end of the month, as were also pastures and ranges. Grasshoppers began to appear in great numbers in the western part of the State towards the close of the month, and were doing serious damage to crops in several localities. Cut worms did considerable damage to corn and gardens.

TEMPERATURE.

The mean temperature for the State was 55.5°, or 2.9° above the normal, and 3.8° higher than the mean for May, 1918. The highest mean reported was 59.8° at Pembina, Pembina County; the lowest was 53.2° at Taylor, Stark County. The highest temperature reported was 101° at Donnybrook, Ward County, on the 28th; the lowest was 16° at Hannah, Cavalier County, on the 5th. The greatest daily range was 52° at Hansboro, Towner County, on the 12th. The greatest monthly range was 81° at Hannah, Cavalier County; the least was 55° at Ellendale, Dickey County. The departures from the mean temperature varied from about 5° above normal in the extreme northern portion to slightly below normal at two stations in the extreme southern portion; on this account the distribution of the mean temperature over the State was very uniform, as the greater plus departures over the northern portion of the State offset the lower normal temperatures of this section. The temperature was considerably below normal during the first week, much above normal from the 19th to the 29th, inclusive, and near normal the rest of the month.

PRECIPITATION.

The average precipitation for the State was 3.25 inches, or 0.70 inch above the normal, and 0.95 inch more than the average for May, 1918. The greatest monthly amount reported was 7.74 inches at Steele, Kidder County; the least was 0.66 inch at Marmarth, Slope County. The greatest amount recorded in any twenty-four consecutive hours was 2.17 inches at Steele, Kidder County, on the 5th. The average number of days with 0.01 inch or more of precipitation was 9. Snowfall in measurable amounts was confined to the south-central portion, the greatest amount reported being 8.0 inches at New Salem, Morton County. The total precipitation was over four inches in the southeastern portion, and generally between two and three inches over the rest of the State, except in the extreme southwestern portion, where it was less than one inch.

—E. G. L.

ERRATUM, APRIL, 1919.

Page 28, greatest precipitation in 24 hours at Grand Forks should be 1.04 inches.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.95	30.37	5	29.51	30	57	8,453	11.4	44	s.	29
Devils Lake	29.92	30.37	5	29.54	30	44	7,965	10.7	42	ne.	4
Ellendale	29.97	30.33	5	29.56	30	56	11,183	15.0	48	ne.	4
Grand Forks	29.94	30.36	5	29.53	31	90	.....	.....	34	se.	4
Williston	29.88	30.30	4	29.23	9	48	7,355	9.9	43	nw.	14
Moorhead, Minn	29.97	30.36	5	29.58	30	57	6,768	9.1	34	w.	5
Averages or extremes.	29.94	30.37	5	29.23	9	.....	.....	11.2	48	ne.	4

*For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	303.9	467.3	65	+ 7	79	47	44	18	23
Devils Lake	326.8	471.0	69	+15	76	52	51	20	22
Ellendale	304.6	463.8	66	.....	84	.....	56	26	21
Grand Forks	.....	.....	.....	.....	80	.....	54	.....	.....
Williston	351.0	471.0	75	+28	74	44	41	15	24
Moorhead, Minn	.....	.....	.....	.....	81	.....	57	.....	.....
Averages or extremes	321.6	468.3	69	+17	79	48	50	15	24

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.08	+0.53	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.

Climatological Data for May, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	56.0	+1.9	92	28	29	5	39	4.35	+1.53	1.20	0	9	16	9	6	ne.	E. T. Carley.
Arnegard	McKenzie		1	56.0	.....	96	28	25	5	43	1.34	.....	0.34	0	5	17	9	5	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	54.4[a]	+1.7	86[a]	28	30[a]	1	36[a]	2.31	−0.17	0.70	0	6	.....	.....	.....	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency††	McLean	2,082	25	57.5[a]	+3.8	100[a]	28	26[a]	7	48[a]	2.71	+0.15	0.62	0	7	19	8	4	se.	C. L. Hall.
Bierman	Slope		3	56.2	.....	95	28	29	4†	36	1.40	.....	0.42	0	8	11	4	16	nw.	E. F. Biermann.
Bismarck	Burleigh	1,674	45	56.0	+0.8	91	27	30	7	38	4.06	+1.56	1.41	0.5	13	13	9	9	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	56.7	+5.4	98	28	24	5	38	1.61	−0.50	0.36	.....	13	13	12	6	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	54.5	.....	97	28	24[c]	4	41[c]	2.06	.....	0.73	.....	8	20	3	8	.....	G. H. Phelps.
Bowman	Bowman	.....	5	53.4	.....	94	28	24	7	49	0.67	.....	0.17	T.	7	17	5	9	se.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	93	28	.....	.....	.....	2.58	+0.14	0.61	.....	9	13	5	13	s.	J. M. Russell.
Carson	Grant	2,500	7	54.8	.....	93	24	27	7	45	2.50	.....	0.93	2.5	8	18	10	3	se.	J. W. Evens.
Colgate	Steele	1,177	5	55.2	.....	94	28	26	5	43	3.34	.....	0.93	0	7	15	10	6	s.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	4.35	+2.34	0.90	0	9	16	9	6	ne.	S. Friswold.
Crosby	Divide	1,954	12	55.4	+5.0	91	28	27	4	34	2.38	+0.32	0.73	0	10	15	7	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	55.7	+3.0	94	28	25	5	34	3.47	+1.27	1.21	T.	13	15	6	10	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	54.6	+2.4	97	28	28	7	42	2.49	0.00	0.81	.....	11	18	8	5	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	57.6	+7.5	101	28	26	5	46	2.97	+0.64	0.75	0	9	.....	.....	.....	s.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	55.2	.....	97	28	26	7	44	2.07	.....	0.60	0	7	19	8	4	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	56.0[a]	+4.1	96[b]	28†	22	5	38[b]	2.42	+0.75	0.65	T.	10	18	7	6	s.	J. G. Lamont.
Eckman	Bottineau	.....	14	54.4[a]	+3.8	98[a]	28	22[a]	5	47[a]	2.49	+0.25	0.77	0	7	14	6	11	s.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	54.4	+0.9	87	28†	28	1	36	4.00	+1.35	0.81	0	12	5	18	8	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	21	54.6	−1.1	86	29	31	5	34	5.22	+2.44	1.67	T.	14	13	4	14	s.	U. S. Weather Bureau.
Energy ††	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	2.49	.....	0.57	.....	7	8	15	8	se.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	2.79	+0.57	1.10	0	7	15	13	3	e.	M. E. Iggen.
Fessenden	Wells	1,610	7	54.4	.....	94	28	23	5	40	2.97	.....	0.78	1.0	11	16	7	8	se.	G. T. Seymour.
Forman	Sargent	1,249	27	55.6[b]	+0.1	90[b]	28	30[b]	5	46[b]	3.86	+0.96	1.08	0	11	15	9	7	n.	J. D. Lewis.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	2.06	.....	1.12	4.0	9	17	11	3	se.	Verne King.
Fullerton	Dickey	1,439	21	56.6	+3.3	88	29	30	1	35	7.02	+3.93	1.84	0	9	13	10	8	s.	F. O. Alin.
Garrison	McLean	1,901	24	54.4	+1.8	93	28	25	7	41	3.54	+1.43	0.98	0	9	14	12	5	se.	G. L. Robinson.
Grafton	Walsh	827	27	55.8	+2.9	97	28	23	5	43	3.49	+1.41	0.70	0	9	17	4	10	ne.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	27	56.1	+2.7	92	28	26	5	36	4.62	+2.17	0.81	0	12	15	9	7	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	56.9	.....	93	28	31	1†	39	4.71	.....	1.20	0	9	14	8	9	s.	G. E. Pooley.
Granville	McHenry	1,504	12	55.8	+4.4	95	28	23	5	38	2.30	+0.44	1.11	0	9	14	11	6	se.	W. A. Christianson.
Hannah	Cavalier	1,568	14	54.6[a]	+4.2	97[a]	28	16[a]	5	42[a]	2.31	+0.20	0.56	0	8	.....	.....	.....	s.	J. Moffatt.
Hansboro	Towner	1,597	11	54.2[b]	+3.9	97[b]	28	18[b]	5	52[b]	2.09	−0.11	0.65	0	8	16	8	7	s.	C. E. Blackorby.
Hettinger	Adams	2,253	11	54.6	+1.8	93	28	26	7	42	1.63	−0.60	0.87	0	9	23	4	4	se.	U. J. Downey.
Hillsboro	Traill	901	13	55.6	+2.4	90	28	28	5	37	4.19	+0.62	1.42	0	11	14	13	4	se.	F. E. Mayall.
Howard	Williams	2,275	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	56.0	+2.5	91	28	30	5	36	4.29	+1.62	1.10	0	11	17	2	12	se.	S. Calvelage.
Lakota	Nelson	1,579	18	55.3	+5.2	92	28	25	1	38	3.80	+1.73	1.40	0	10	.....	.....	.....	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	54.6[b]	+3.9	92[b]	28	26[b]	1†	39	4.06	+1.87	.....	0	8	.....	.....	.....	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	23	54.8	+4.0	95	28	21	5†	37	2.68	+0.38	0.83	0	9	20	3	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	56.4	+4.0	95	28	24	5	38	6.68	+4.34	2.15	0	11	17	6	8	s.	Reuben Gray.
Linton	Emmons	1,711	1	54.2	.....	92	29	28	1	44	5.11	.....	1.02	.....	9	.....	.....	.....	.....	Father Sailer.
Lisbon	Ransom	1,091	15	56.6	+3.7	89	28†	28	5	36	4.29	+1.03	0.95	0	10	14	6	11	ne.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	3.80	.....	0.90	0	9	12	18	1	se.	Edw. Tapley.
McHenry	Foster	1,509	9	55.6	.....	93	28	27	5	37	6.72	.....	1.55	T.	11	18	6	7	nw.	P. E. Trudeau.
McKinney ††	Renville	1,640	25	54.8	+2.8	98	98	22	7	50	2.41	+0.41	1.00	0	4	15	11	5	se.	N. P. Swenson.
McLeod	Ransom	1,075	7	56.6	.....	90	28†	28	5	37	4.22	.....	1.20	0	11	17	8	6	se.	R. D. Markland.
Maddock	Benson	1,604	4	55.2	.....	93	28	25	5	43	2.95	.....	0.67	0	7	12	9	10	se.	F. P. Cowing.
Mandan	Morton	1,644	5	55.8	.....	93	27†	29	5†	41	3.90	.....	1.17	T.	11	17	4	10	e.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	56.2	+4.6	93	28	26	5	38	3.26	+0.89	0.68	0	9	16	8	7	se.	P. B. Anderson.
Marmarth	Slope	.....	10	55.4	+5.4	95	28	26	7	44	0.66	−1.83	0.24	T.	7	17	6	8	se.	S. P. Grane.
Mayville	Traill	975	23	56.1	+1.6	94	29	26	1	39	5.18	+2.26	2.07	0	11	16	4	11	sw.	W. C. Gould.
Melville	Foster	1,590	21	54.0[d]	+1.5	90[d]	28	23[d]	15	34[d]	3.84	+1.38	0.90	T.	7	.....	.....	.....	ne.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman.
Minot	Ward	1,557	23	55.0	+2.7	99	28	21	5	46	3.11	+1.13	1.40	0	10	10	16	5	e.	W. L. Faris.
Minto	Walsh	820	26	57.4	+4.0	96	28	24	5	44	3.93	+1.59	0.88	0	12	18	4	9	se.	C. M. Evans.
Mott	Hettinger	2,424	12	54.8	+3.2	93	26	26	6	36	3.12	+0.77	1.05	0	12	14	5	12	se.	O. H. Opland.
Napoleon	Logan	1,955	27	54.0	+1.6	89	27†	26	5	42	4.18	+1.78	0.87	6.0	13	13	6	12	se.	C. J. Hoof.
New England	Hettinger	2,400	25	53.8	+2.2	93	27†	28	7	41	1.94	−0.28	0.80	T.	7	.....	.....	.....	.....	W. C. McKenzie.
New Salem	Morton	2,163	14	54.4	+3.1	91	27†	21	5	38	2.50	+0.04	0.74	8.0	10	16	8	7	sc.	J. Christiansen.
Orange ††	Adams	2,586	10	53.6[a]	+3.3	91[a]	27	25[a]	7	43[a]	1.78	−0.77	0.40	0	8	.....	.....	.....	se.	T. F. Young.
Park River	Walsh	998	15	58.0[c]	+5.8	96[c]	28	28[c]	1	37[c]	2.52	+0.31	1.32	0	5	.....	.....	.....	n.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	3.29	.....	1.25	.....	5	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	59.8[a]	+7.3	99[a]	28	32[a]	1†	38[b]	1.16	−1.27	0.48	0	9	.....	.....	.....	.....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	54.2	.....	90	27†	25	5	36	3.95	.....	0.80	4.0	10	13	6	12	se.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	3.48	+0.59	1.23	T.	10	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	1.31	.....	0.65	0	4	13	11	7	ne.	C. Frank.
Sanish	Mountrail	2,260	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Senechal.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.53	+2.76	0.87	0	10	16	14	1	se.	H. F. Solenberger.
Sherwood	Renville	1,500	1	53.9	.....	95	28	20	5	43	2.36	.....	0.76	0	9	16	7	8	s.	Blake Lancaster.
Steele	Kidder	1,857	22	57.3	+3.5	90	28	33	6	32	7.74	+5.46	2.17	6.0	11	16	11	4	s.	H. S. Wood.
Taylor	Stark	2,493	3	53.2	.....	88	28†	28	4	41	1.90	.....	0.92	.....	6	20	2	9	se.	H. Leutz.
Towner	McHenry	1,482	17	58.1	.....	97	28	25	5	43	2.35	.....	0.90	0	4	18	8	5	s.	B. Bagley.
Turtle Lake	McLean	1,899	5	54.9	.....	93	28	27	5	43	3.37	.....	0.94	0	12	19	9	3	se.	A. T. Anderson.
Valley City	Barnes	1,245	1	54.8[c]	+2.2	95[c]	30	28[c]	4†	32[c]	3.77	+0.82	1.35	0	9	.....	.....	.....	.....	H. D. Palmer.
Walpeton	Richland	962	25	57.1	+1.8	90	28†	29	9	42	5.37	+2.69	1.45	0	10	21	0	10	se.	F. E. Smith.
Walhalla	Pembina	966	12	57.1	+7.0	99	28	23	5	42	2.60	−0.04	1.04	0	7	19	7	5	s.	Ivan Lee.
Washburn	McLean	1,734	20	57.0[a]	+3.2	92[a]	27	22[a]	4	31[a]	4.09	+1.78	2.08	0	11	.....	.....	.....	se.	Adolph Guenther.
Westhope	Bottineau	1,508	13	56.9	+5.5	100	28	20	5	43	2.39	+0.33	0.90	0	9	17	4	10	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	56.4	+2.1	96	28	29	4	38	2.16	−0.10	0.85	T.	10	14	12	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	54.8	+3.3	96	27	24	5	44	2.45	+0.54	0.70	0	7	17	10	4	se.	M. A. Ostby.
Zap	Mercer	1,800	6	54.4	+2.5	93	28	25	7	42	2.66	+0.19	0.88	T.	9	16	7	8	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	57.0	+2.2	91	28	30	5	36	4.01	+1.06	1.06	0	12	20	3	8	se.	U. S. Weather Bureau.
Averages				55.5	+2.9	101	28	16	5	52	3.25	+0.70	2.17	0.4	9	16	8	7	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; Jolley, N. D.; McKinney, Tolly, N. D.

Daily Precipitation for May, 1919.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red			.40	1.03	T.	.04	1.20	T.	.53		T.	.48	T.	.23	T.	.22			T.												.22	4.35
Arnegard	Missouri		.10	.28			.31				.34			.31				T.														1.34
Ashley	Missouri		.36	.58	T.	.24		T.	.05			.70		T.					T.												.38	2.31
Beach	Lit. Missouri																																
Berthold Agency	Missouri	.01	.39	.62	.40	T.	.15	T.			.56			T.				.58													T.	T.	2.71
Bierman	Lit. Missouri		.42	.16	.10	.08	.05	.30			.09		T.																		.20		1.40
Bismarck ***	Missouri	.02	.51	1.20	.21	.08	.26	.10	.13			.78		T.		T.		.07	.30												.23	.17	4.06
Bottineau‖ ‖	Mouse		.03	.08	.30		.04	.04	.27			.14	.36	.07	.18	.01			.07	T.												.02	1.61
Bowbells ‖ ‖	Mouse			.10	.73		.20	.10	.18			.48		.22	.05																		2.06
Bowman	Grand		.17	.03	.04		.15	.11			.11																T.				.06	T.	0.67
Cando	Sheyenne	.18		.21			.61	.11	.31			.40		.22		.24																.30	2.58
Carson	Heart		.93	.20	.05		.30		.15			.45								.20												.22	2.50
Colgate	Sheyenne			.35			.93	.10	.60				.30	.16	T.	T.															.90		3.34
Cooperstown	Sheyenne		.25	.65	.60		.90		.55			.35			.10																.90	.05	4.35
Crosby	Mouse			.45	.11		.21	.15			.73	.05		.48					.08	.09											.03		2.38
Devils Lake ***	Sheyenne	T.	.01	.42	.01	.02	.80	.04	.32			.32		.17	.01	.14			T.												.75	.46	3.47
Dickinson‖ ‖	Heart	.08	.40	.81	.31		.09	.06	.10			.55			.01																.05	.03	2.49
Donnybrook	Mouse	T.	.30	.75			.61	.15	.20	*	.45			.15		T.		.36															2.97
Dunn Center	Knife		.60	.53	.27	T.	.10	T.			.55	.01		.01																	T.		2.07
Dunseith	Mouse	.04	T.	.33			.19		.51			.65		.34		.04	.09		.01													.22	2.42
Eckman	Mouse			.75	.16		.26	.20				.77		.20				T.	.15														2.49
Edgeley	James		.24	.70	.32		.81		.21		.70		.10	.09		.02			.03												.15	.63	4.00
Ellendale ***	James		.39	.89	.02	.25	.57		.22			.83	.09	.05	T.	.01		.01	.22												1.18	.49	5.22
Energy	Missouri		.50	.57	.42		T.	.17	T.			.32			T.	T.	T.		.43	T.												.08	2.49
Epping	Missouri		.15	.50	.38		.10	.18			1.10			.38					T.												T.		2.79
Fessenden‖ ‖	James	.15	T.	.26	.78		.18	.18	.30	.10		T.	.55	T.	.05	T.	T.		.05	T.												.37	2.97
Forman	Sheyenne	.15		1.08	.08		.93		.34			.14	.22						.27	.07											.13	.45	3.86
Fryburg	Lit. Missouri	.07	1.12	.32		.05	.06	.11			.15		.08	T.																	.10		2.06
Fullerton	James		.70	.80		T.	1.05		.38			.54	.45	T.					.32												.94	1.84	7.02
Garrison	Missouri	.05	.98	.86	.70	T.	.15	.03				.53		.09		T.		T.	.15													T.	3.54
Grafton‖‖	Red				.12		.25	.47	.10	.70			.26		.43	.11																1.05	3.49
Grand Forks ***	Red			.71	.56		.81		.41	.03		.16	.32	.20	.10	.01															.80	.51	4.62
Grand Rapids	James		.20	1.20	.30		.90	T.	.25			.60		.05																	.01	1.20	4.71
Granville	Mouse	T.	T.	1.11		T.	.25	.37	.05			.17		.11				.16	.03													.05	2.30
Hannah	Pembina			T.			.56		.31			.26		.21	.01	.18	.22														.56		2.31
Hansboro	Red	T.		.16			.65		.10			.40		.14		.18	.16															.30	2.09
Hettinger	Grand	.04	.17	.05	.03		.11	.01	.31			.87																				.04	1.63
Hillsboro	Red			.47	1.42		.78	.10	.31					.37	.17		.01		.02												.17	.37	4.19
Howard	Missouri																																
Jamestown ‖ ‖	James	.15		.14	1.10	.10	.40	.40	.30	.20				.70	.05																	.75	4.29
Lakota	Sheyenne			1.40	.35		.78		.56			.28		.13	.07	.02			.01												.20		3.80
Lamoine	Missouri	T.	*	2.03		T.	.41	.33				.68		.11		.04																.46	4.06
Langdon‖ ‖	Pembina			.09			.27	.46	.23				.27		.18	.20	.15															.83	2.68
Larimore ‖ ‖	Red			.38	1.00	.10	.27	.62	.34	1.10			.40		.25	.07															2.15	6.68
Linton	Missouri		.90	1.02	.25		.79		.40			.75		.05																	.85	.10	5.11
Lisbon	Sheyenne	.24		.42	.95	.05	.33	.62	T.	.38			.58					T.		.15												.57	4.29
McClusky	Missouri		.25	.90	.60		.43					.50		.08		.04			.65													.35	3.80
McHenry	James			.55	.60		1.05		.75			1.55	.10	.13	.05	.07															.75	1.12	6.72
McKinney	Mouse			.80			.30	T.				1.00		T.		T.		.31															2.41
McLeod	Sheyenne		.18	1.02	.30		1.20	.02	.45			.15	.45	.08		.07				.30													4.22
Maddock	Sheyenne			.47	.47		.48		.34			.67				.12																.40	2.95
Mandan‖ ‖	Missouri		.09	.86	1.17		.25	.06	.29			.34	.42						.05	.17												.20	3.90
Manfred	Sheyenne	.02	T.	.57	.68		.52		.17			.53		.12				.12													T.	.53	3.26
Marmarth	Lit. Missouri		.17	.01	.09	T.	.08	.04			.03		T.	T.																	.24		0.66
Mayville	Red				2.07	.10	.50	.18	.28					.59	.20		.05		.06												.30	.85	5.18
Melville	James			.90	.65		.58		.45			.30		T.																	.33	.63	3.84
Milnor	Red																																
Minot ‖ ‖	Mouse	.09		.20	1.40		.15	.30	.07			.80		.02	.02				.06														3.11
Minto	Red			.45	.08		.88	.12	.76			.02	.33	.20	.09	.07															.43	.50	3.93
Mott	Cannon Ball		.53	.13	.07	.04	.15	.14	.25		.20	.50		.01				1.05														.05	3.12
Napoleon ‖ ‖	Missouri	.15		.15	.87	.30	.20	.60	.35			.08	.55	.02	.03				.11														.77	4.18
New England ‖ ‖	Cannon Ball	.05	.57	.06	T.		.01	T.	.35			.80																			T.	.10	1.94
New Salem	Heart	.01	.74	.37	.25	T.	.29	.04	.24			.34		T.					.09														.13	2.50
Orange	Cannon Ball		.39	.06			.24	.03	.22			.40						.26													.18		1.78
Park River	Red						1.32		.95			T.			.10	.07																.08	2.52
Parshall	Missouri		1.25	.51							.59	.26						.68															3.29
Pembina ‖ ‖	Red				.04		.08	.20	.04	.08			.10		.08	.06																.48	1.16
Pettibone	James		*	*	1.36		.60		.24			.50				.02			.08													.35	.80	3.95
Power	Missouri		.21	*	1.23	*	.65		.48			*	.51	.08	T.	T.			.06													*	.26	3.48
Powers Lake	Sheyenne			.65	.10		T.				.16	.40						T.															1.31
Sanish	Missouri																																
Selfridge	Missouri		.87	.55	.22	.16	.47		.25			.80						13													.75	.33	4.53
Sherwood	Mouse	.01	.04	.75			.22	.25				.76		.21	T.	.02		10													T.		2.36
Steele	Missouri		*	1.25	.96	2.17	.48	T.	.25		T.	.84		T.		.20		.64												.03	.92		7.74
Taylor	Heart		.92	.26	.19		.14	T.			.10	.29																					1.90
Towner	Mouse		T.	.90				.40	T.			.82																				.23	2.35
Turtle Lake	Missouri		.17	.94	.63		.23	.08	.07			.31		.04	T.	.01			.78	.01												.10	3.37
Valley City	Sheyenne			*	1.00			.50	.35					.35	T.	.02	.05	T.													.15	1.35	3.77
Wahpeton‖ ‖	Red			.26	1.01	.10	.53	.55		.85			.30		.20					.12												1.45	5.37
Walhalla	Pembina			.14			.62		.46			T.	.15	.19	T.	T.																.20	.84	2.60
Washburn	Missouri			.15	2.08		.11	.10	.26			.23	.23		.06				.15	.66												.06	4.09
Westhope	Mouse			.16	.04		.29	.05	.90			.50		.21	.03				.21															2.39
Williston ***	Missouri		.09	.85		.01	.04	.03			.66		.23	.21				.02													.02		2.16
Willow City	Mouse		T.	.70	T.		.35	.02	.40			.53		.33	T.	T.																.12	2.45
Zap	Knife		.31	.54	.43		.14	T.			.03	.88		.01				12	.20													T.	2.66
Moorhead, Minn ***	Red		.12	.91	.13		1.06		.34		T.	.09	.07	.19		.05	T.		.06												.83	.16	4.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	66	62	50	50	54	42	54	55	63	71	68	65	61	66	53	73	74	76	71	73	78	82	81	83	83	83	88	92	91	89	..	[a]69.9
	Minimum	30	30	35	34	29	39	35	38	30	35	45	49	44	42	40	38	40	40	40	39	42	45	49	46	49	48	52	53	52	65	56	42.2
Ashley	Maximum	61	56	47	42	42	..	53	57	62	68	59	62	58	63	53	68	71	64	67	72	74	77	80	82	81	80	85	86	82	78	63	[a]66.5
	Minimum	30	33	37	31	32	..	32	35	31	42	48	35	47	40	37	35	42	48	40	39	39	44	44	48	50	50	57	58	58	62	48	[a]42.4
Beach	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum	63	56	44	50	49	49	54	60	71	72	64	71	63	66	63	74	80	..	76	81	84	83	87	90	92	93	95	100	90	90	71	[a]72.7
	Minimum	49	38	40	32	28	36	26	28	30	49	47	37	43	40	37	31	47	..	37	37	44	40	44	42	56	58	53	60	65	50	43	[a]42.3
Bismarck	Maximum	57	47	43	50	45	46	56	57	67	72	64	66	69	63	57	70	73	68	73	77	78	79	82	85	84	85	91	90	85	75	62	67.9
	Minimum	32	38	33	33	30	33	30	38	33	48	49	39	48	45	40	39	48	49	42	43	45	44	47	47	56	58	61	65	61	49	48	44.2
Bottineau	Maximum	60	56	52	47	54	47	56	56	63	74	58	66	65	48	64	71	73	75	75	78	80	81	85	87	86	89	94	98	88	75	65	69.9
	Minimum	27	38	35	27	24	38	27	31	32	41	46	35	44	36	36	42	46	49	48	44	46	48	49	53	55	55	60	60	59	58	50	43.4
Bowbells §§	Maximum	60	48	42	46	50	47	53	59	65	64	60	65	57	52	62	67	72	70	70	77	81	80	85	85	85	88	91	97	87	68	60	67.5
	Minimum	31	33	31	24	..	..	28	31	40	42	37	40	35	31	34	43	40	43	41	50	44	51	52	58	57	56	60	53	45	[a]41.5
Carson	Maximum	60	46	45	48	40	48	54	60	66	70	68	62	60	65	60	64	74	70	70	80	80	88	84	93	88	90	90	90	85	75	60	68.8
	Minimum	32	35	35	28	28	28	27	32	34	45	46	41	40	40	35	32	46	40	39	40	45	45	48	50	54	55	56	60	32	32	40	40.8
Crosby	Maximum	69	55	45	43	49	54	49	54	66	62	58	66	64	56	58	67	69	69	70	74	81	78	83	83	87	85	88	91	87	56	62	67.0
	Minimum	35	40	35	27	29	33	33	32	34	46	40	43	43	43	34	37	46	46	46	45	48	50	51	52	55	56	56	62	64	48	48	43.8
Devils Lake	Maximum	60	57	45	48	51	41	52	52	59	71	57	65	55	53	57	71	75	74	72	76	77	80	82	83	82	83	91	94	88	74	59	67.2
	Minimum	30	38	39	31	25	33	34	39	35	41	47	37	43	39	37	40	48	52	43	43	47	49	51	49	55	56	61	66	62	55	46	44.2
Dickinson	Maximum	59	37	38	46	41	47	49	57	69	55	62	69	67	62	61	68	75	71	72	76	78	79	82	85	88	91	90	97	90	84	62	68.0
	Minimum	36	35	36	30	29	32	28	30	33	47	45	41	42	40	42	32	50	35	36	37	44	40	44	43	51	56	51	61	60	50	44	41.3
Donnybrook	Maximum	63	54	42	47	49	46	66	62	70	63	71	..	65	55	63	75	74	75	78	70	87	85	87	91	90	92	95	101	91	80	64	[a]71.7
	Minimum	35	36	34	28	26	36	30	30	39	43	37	..	59	36	34	35	44	45	37	42	41	51	54	53	67	59	55	58	63	50	50	[a]43.6
Dunseith	Maximum	59	57	57	64	51	48	52	54	60	..	..	63	67	46	61	69	72	72	72	76	78	78	82	82	83	85	91	96	96	89	68	[b]69.9
	Minimum	26	39	34	25	22	35	28	32	32	40	45	34	43	36	35	42	47	49	42	41	49	44	47	45	53	55	60	60	58	59	45	42.0
Edgeley	Maximum	62	60	52	46	47	46	54	58	61	70	68	60	60	65	61	52	72	71	70	72	74	77	78	80	81	80	84	87	87	85	72	67.5
	Minimum	28	30	37	31	29	35	36	34	30	38	46	37	48	44	39	39	38	50	41	37	38	41	48	46	45	49	53	53	52	61	48	41.3
Ellendale	Maximum	60	49	45	45	47	45	52	60	62	70	56	62	62	65	52	68	72	63	69	71	73	77	77	80	80	80	83	85	86	81	59	65.7
	Minimum	32	34	37	33	31	38	37	39	33	42	48	50	46	43	40	41	47	49	43	41	42	45	49	50	51	49	50	53	52	59	47	43.6
Fessenden	Maximum	59	54	45	49	49	42	51	53	61	72	58	65	56	58	55	71	73	73	74	76	77	81	82	85	84	85	91	94	86	75	65	67.8
	Minimum	27	33	35	30	23	30	32	35	30	40	46	35	44	40	35	35	41	49	38	41	40	43	46	45	48	51	60	62	58	54	46	41.0
Forman	Maximum	63	..	62	45	51	48	..	61	62	74	65	64	60	69	64	72	76	72	70	72	77	80	78	81	83	83	87	90	88	88	72	[b]70.9
	Minimum	33	..	34	35	30	38	..	36	31	42	43	52	41	41	50	40	30	42	32	30	45	37	41	48	40	45	46	44	46	57	42	[b]40.4
Fullerton	Maximum	64	50	55	63	58	49	54	58	61	71	59	62	61	64	53	70	73	69	69	72	75	79	80	81	82	81	84	87	88	84	65	68.4
	Minimum	30	35	34	37	38	40	38	38	32	40	48	47	49	43	38	40	55	48	42	45	41	52	50	60	49	53	53	52	56	62	41	44.7
Garrison	Maximum	60	53	43	47	47	45	55	55	64	68	68	65	58	61	59	70	71	69	72	78	77	79	84	78	83	87	92	93	85	73	63	67.8
	Minimum	30	29	36	29	26	34	25	30	33	44	47	39	37	39	35	34	40	43	41	41	42	40	43	43	53	57	59	63	61	50	48	41.0
Grafton	Maximum	63	64	54	54	56	52	50	52	59	71	68	63	59	50	59	75	74	76	73	75	78	84	83	84	84	85	91	97	90	85	64	70.1
	Minimum	25	32	40	37	23	38	35	34	30	35	45	46	46	40	37	41	36	45	40	35	40	42	47	41	49	53	54	60	54	57	54	41.6
Grand Forks	Maximum	61	62	53	53	55	45	49	53	60	70	69	63	59	57	58	73	74	74	72	72	76	82	81	81	82	84	89	92	90	86	65	69.0
	Minimum	27	35	41	33	26	37	35	34	33	39	49	52	49	40	39	39	39	49	39	38	43	46	47	46	51	54	56	60	54	61	49	43.2
Granville	Maximum	62	55	43	50	55	42	56	58	67	75	65	68	64	54	65	72	73	72	76	77	78	80	83	85	83	85	92	95	93	75	64	69.7
	Minimum	30	35	37	30	23	37	30	32	30	53	42	35	45	34	37	30	43	48	40	40	40	46	45	47	50	50	60	65	60	50	50	41.9
Hannah	Maximum	50	54	56	47	58	45	60	59	65	67	55	67	60	48	62	68	74	75	76	78	77	79	78	80	82	87	91	97	86	81	..	[a]68.7
	Minimum	34	35	36	30	16	34	33	33	30	38	37	39	39	37	34	35	37	43	44	39	41	43	46	44	50	55	56	62	64	54	..	[a]40.6
Hansboro	Maximum	60	58	50	50	57	48	54	54	60	72	65	85	57	47	60	72	74	73	71	78	80	84	84	87	84	87	92	97	88	..	..	[b]69.9
	Minimum	26	26	26	24	18	33	26	32	30	37	44	33	44	34	37	37	41	45	38	40	33	42	43	47	51	54	57	60	56	..	..	[b]38.4
Hettinger	Maximum	54	61	58	49	51	43	51	55	60	68	70	71	70	60	67	68	62	77	78	75	77	79	78	82	85	87	90	93	92	87	69	69.9
	Minimum	34	39	34	31	30	32	26	31	35	34	34	34	42	37	33	32	35	38	38	36	39	37	42	40	50	55	54	59	62	47	44	39.2
Howard	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Jamestown	Maximum	63	60	47	49	50	46	54	54	60	70	68	60	58	62	54	70	75	72	70	74	75	81	80	82	83	83	89	91	87	84	64	68.2
	Minimum	31	32	39	32	30	35	36	38	34	42	50	40	52	46	34	40	42	52	42	42	42	49	50	50	51	52	59	55	52	59	56	43.8
Lakota	Maximum	62	60	47	48	55	46	53	51	57	68	64	63	53	51	51	68	66	72	72	74	78	82	80	81	81	87	89	92	87	84	..	[a]67.4
	Minimum	25	28	28	33	32	35	34	36	31	40	47	37	40	39	35	45	42	48	55	37	42	47	47	46	49	59	59	60	80	60	..	[a]43.2
Lamoine	Maximum	58	52	37	47	42	54	52	68	71	59	66	62	60	63	68	74	..	..	74	76	77	80	83	83	84	85	91	92	87	86	86	[b]67.7
	Minimum	26	36	30	30	26	32	32	36	32	43	48	35	43	40	42	36	44	..	..	43	43	42	46	47	48	54	58	59	56	47	48	[b]41.4
Langdon	Maximum	61	61	52	48	55	45	50	48	60	69	62	60	57	44	58	71	73	72	71	75	79	80	82	86	84	82	90	95	87	76	56	67.4
	Minimum	24	32	37	30	21	35	21	35	33	37	47	37	48	36	32	35	42	47	40	40	43	45	49	49	60	59	59	60	57	66	49	42.1
Larimore	Maximum	64	64	50	52	55	50	53	52	60	70	68	60	58	57	56	73	73	74	73	74	79	83	83	85	84	85	90	95	90	87	65	69.7
	Minimum	27	36	40	37	24	38	35	37	30	36	45	45	47	42	35	40	40	45	42	40	42	46	50	47	51	50	55	61	55	66	52	43.1
Lisbon	Maximum	66	60	45	48	50	48	46	56	60	71	68	63	62	69	65	70	75	70	70	72	74	79	80	80	84	82	88	89	89	83	69	68.7
	Minimum	31	33	45	33	28	38	36	37	30	40	50	47	47	40	38	39	50	50	46	36	45	50	45	48	56	57	57	55	60	62	53	44.6
McHenry	Maximum	63	68	56	53	53	47	56	53	60	73	59	63	53	56	57	70	73	67	73	73	76	80	81	83	82	81	89	93	87	74	70	68.5
	Minimum	33	34	36	33	27	32	33	30	31	40	34	37	43	40	37	36	47	41	40	42	44	49	53	46	53	56	61	56	59	69	54	42.8
McKinney	Maximum	60	50	44	50	52	48	55	60	66	65	62	67	57	54	65	73	74	72	78	81	81	81	85	88	88	90	95	98	90	80	65	70.1
	Minimum	32	32	34	28	28	37	22	32	32	34	29	40	42	31	35	33	41	34	32	31	60	47	40	50	50	70	50	50	50	50	53	39.6
Maddock	Maximum	60	59	52	47	50	47	53	59	59	70	72	63	64	55	54	70	73	75	74	75	77	79	03	84	84	84	90	93	92	86	72	69.5
	Minimum	26	33	37	30	25	32	31	35	31	40	44	32	47	39	37	35	40	50	40	40	39	41	41	41	47	52	60	62	56	58	48	40.9
Marmarth	Maximum	62	56	41	46	42	50	52	60	72	62	63	73	60	64	60	66	73	73	73	79	80	81	81	86	90	93	92	95	91	80	57	69.5
	Minimum	31	36	33	31	31	32	26	41	35	54	40	40	40	55	30	31	49	50	40	38	41	41	41	42	53	52	54	56	60	40	40	41.4
Minot	Maximum	62	55	43	48	49	45	55	50	68	75	70	68	68	55	63	73	75	71	74	79	75	80	86	89	87	91	95	99	88	90	69	70.7
	Minimum	26	33	32	25	21	33	25	25	32	40	40	35	41	35	32	32	41	38	32	35	45	47	49	45	49	53	55	62	68	57	47	39.4
Mott	Maximum	60	56	43	41	36	37	46	58	57	68	62	71	56	60	57	64	73	67	76	75	76	77	77	83	86	93	90	87	88	68	68	66.3
	Minimum	31	36	33	32	31	26	30	40	45	46	54	42	41	42	36	43	48	43	44	40	40	45	49	53	60	58	61	57	52	45	40	43.3
Napoleon	Maximum	62	58	47	48	44	40	57	57	57	72	65	65	60	64	52	71	75	68	71	74	76	80	80	85	84	83	89	89	85	78	62	67.7
	Minimum	28	35	36	30	26	30	29	33	27	43	48	33	50	42	35	31	38	45	35	37	36	42	42	43	47	51	60	60	61	52	46	40.4
New England §§	Maximum	66	48	40	58	36	38	55	60	68	70	68	68	58	60	60	69	76	75	72	80	80	78	83	83	85	88	93	93	85	60	62	67.6
	Minimum	36	40	35	31	30	31	28	30	33	42	43	41	40	38	36	32	35	42	37	40	43	42	45	43	50	53	52	54	55	45	42	40.1
New Salem	Maximum	68	60	42	44	45	49	55	56	64	58	66	68	65	62	66	68	72	66	69	72	71	76	78	85	83	87	91	91	84	80	76	68.3
	Minimum	29	30	29	25	21	29	26	29	29	41	38	45	41	37	36	32	41	39	41	39	38	41	49	53	52	54	56	67	67	50	49	40.4
Orange	Maximum	58	58	59	46	41	49	54	58	70	72	64	68	65	63	58	68	75	69	71	74	71	76	80	84	84	89	91	86	78	60	..	[a]67.9
	Minimum	27	38	35	31	30	30	25	31	33	48	47	40	38	33	35	27	47	40	35	36	41	39	40	41	49	53	51	63	51	43	..	[a] 39.2
Park River	Maximum	50	51	..	..	..	44	39	39	46	58	57	51	51	57	57	74	74	57	56	59	84	86	83	86	85	84	91	96	95	91	71	[c]70.4
	Minimum	28	33	..	..	..	39	36	33	31	33	44	41	47	41	36	41	37	47	42	45	48	51	47	57	49	59	58	69	63	67	52	[c]45.5
Pembina §§	Maximum	66	64	52	41	58	52	62	56	62	71	72	..	64	51	61	71	76	78	72	78	81	82	84	92	88	88	91	99	92	91	71	[a]72.2
	Minimum	32	36	37	36	32	48	39	41	38	44	51	54	..	44	38	41	51	42	44	44	49	51	52	56	62	59	57	61	61	61	61	[a]47.4
Steele	Maximum	62	58	49	49	47	47	67	54	63	73	69	64	63	66	56	70	75	72	70	76	70	78	78	88	84	83	87	90	81	84	78	69.3
	Minimum	46	40	36	34	36	33	34	36	34	38	38	40	38	36	36	40	45	50	40	42	44	50	50	64	60	60	62	65	65	62	50	45.3
Towner	Maximum	68	54	48	52	53	46	56	57	64	75	70	69	63	53	63	70	76	76	75	78	79	87	83	85	86	85	95	97	95	84	70	71.4
	Minimum	40	38	36	32	25	35	28	31	31	44	47	45	40	37	44	56	44	50	46	47	45	44	44	46	53	60	64	56	65	58	49	44.8
Valley City	Maximum	50	52	48	46	48	56	52	52	56	..	..	..	53	66	67	62	70	73	69	69	74	76	78	..	..	82	85	87	90	95	78	[c]66.7
	Minimum	30	34	30	28	28	36	33	40	34	..	..	..	47	41	35	35	45	50	44	42	42	52	52	..	..	52	58	58	58	64	52	[c]42.8
Wahpeton	Maximum	65	61	50	47	56	54	52	56	62	72	70	66	66	67	66	73	75	72	70	75	82	76	76	82	82	86	90	90	90	88	70.5
	Minimum	32	33	40	36	30	42	36	35	29	41	48	51	46	44	38	37	43	51	38	35	37	40	50	52	52	52	56	55	57	65	55	43.7
Westhope	Maximum	64	72	68	50	52	46	55	59	65	73	66	67	58	68	70	74	74	75	76	79	83	83	88	89	90	91	95	100	88	78	65	72.9
	Minimum	31	35	35	22	20	36	30	32	33	42	35	34	36	38	38	36	44	40	39	42	43	45	49	47	50	50	57	57	57	54	53	40.9
Williston	Maximum	62	48	40	46	46	49	50	59	69	64	63	71	60	61	59	68	71	73	74	81	84	79	86	88	88	87	93	90	88	63	62	68.6
	Minimum	38	39	32	29	31	34	32	30	40	50	40	42	43	37	35	37	50	43	46	47	53	53	50	54	60	61	56	58	63	47	39	44.2
Willow City	Maximum	61	56	44	48	53	41	54	54	62	72	66	64	56	50	63	71	73	72	72	77	79	80	84	85	87	93	96	89	78	76	70	68.6
	Minimum	25	34	35	29	24	35	27	31	31	43	46	32	44	37	37	37	42	47	39	40	40	41	43	41	58	58	56	58	58	54	50	41.0
Zap	Maximum	62	51	41	48	47	48	55	58	68	71	61	68	61	63	59	69	74	67	70	75	78	78	81	84	81	89	92	93	83	78	63	68.4
	Minimum	32	35	35	29	27	34	25	29	31	44	46	39	41	38	36	31	46	39	37	37	44	42	42	42	42	55	54	61	61	50	46	40.3
.....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
.....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 850 records.
W. T.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JUNE, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 14, 1919.

Departure of the Mean Temperature from the Normal, June, 1919.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JUNE, 1919. No. 6.

GENERAL SUMMARY.

The first ten days of the month were cool, and freezing temperatures occurred in most northern and western localities during this period. During the remainder of the month the temperature was much above normal, resulting in a mean temperature for the month which is one of the highest of record for June. Excessive humidity rendered the heat very oppressive. The rainfall was deficient generally, and irregularly distributed; it varied generally between two and three inches over the eastern and extreme northwestern portions, and averaged about one inch over the western portion, but extensive areas in the central and middle eastern portions had from four to over eight inches. Crops were generally favorably affected by the weather during the month in the eastern portion, where moisture was generally sufficient and the heat was not so intense, but over the western portion heat and drought, together with the grasshopper pest, caused a general deterioration. In spite of a vigorous campaign of poisoning carried on against the grasshoppers they continued to cause serious damage to crops in the western and central portions. Hot winds from the 27th to the 29th, inclusive, were also damaging to crops.

Two severe windstorms occurred during the month. The first occurred in Burleigh County on the 12th, and caused property damage amounting to about $40,000. The second occurred on the 29th, sweeping over Williams and Divide counties and east to Bottineau County. Eight people were killed and about forty injured, and property damage was estimated at $300,000.

TEMPERATURE.

The mean temperature for the State was 67.2°, or 4.4° above the normal, and 3.9° higher than the mean for June, 1918. The highest mean reported was 72.4° at Mott, Hettinger County; the lowest was 63.4° at Turtle Lake, McLean County. The highest temperature reported was 108° at Berthold Agency, McLean County, on the 28th, and at Dickinson, Stark County, Dunn Center, Dunn County, and Marmarth, Slope County, on the 29th; the lowest was 22° at Howard, Williams County, on the 2d. The greatest monthly range was 81° at Bowman, Bowman County, and Zap, Mercer County; the least was 51° at Grand Forks, Grand Forks County. The greatest daily range was 51° at Arnegard, McKenzie County, on the 25th, and at Bowman, Bowman County, on the 6th. The mean temperature distribution was quite uniform over the State, but the difference between the day and night temperatures was much greater over the western than the eastern portion; consequently both the highest and lowest temperatures for the month were recorded in the western portion.

PRECIPITATION.

The average precipitation for the State was 2.31 inches, or 1 19 inches below the normal, and 0.68 inch more than the average for June, 1918. The greatest monthly amount reported was 8.70 inches at Cando, Towner County; the least was 0.52 inch at Dickinson, Stark County. The greatest amount recorded in any twenty-four consecutive hours was 6.13 inches at Cando, Towner County, on the 21st and 22d. The average number of days with 0.01 inch or more of precipitation was 5. Showery conditions prevailed during most of the month, but the distribution over the State was rather irregular. Most of the heavier falls occurred on the 8th, 12th, 13th, 21st and 22d.

—E. G. L.

ERRATA, MAY, 1919.

Page 38: Minimum temperature at Williston on the 26th should be 65°, and the mean minimum, 44.3°.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.02	30.31	3	29.55	29	57	8,460	11.8	63	sw.	12
Devils Lake	29.98	30.33	3	29.64	29	44	7,642	10.6	34	s.	13
Ellendale	29.98	30.32	3	29.74	29	56	10,405	14.5	44	ne.	17
Grand Forks	29.99	30.36	3	29.74	24	90	.....	.....	30	se.	28
Williston	29.90	30.29	2	29.36	29	48	8,080	11.2	60	w.	29
Moorhead, Minn	30.01	30.34	3	29.71	24	57	6,207	8.6	30	se.	29
Averages or extremes.	29.98	30.36	3	29.36	29	.....	.....	11.3	63	sw.	12

*For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c.t.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	325.8	475.1	69	+ 7	82	50	51	20	2
Devils Lake	285.8	478.7	60	− 2	84	60	64	31	9
Ellendale	333.7	470.9	71	.....	87	.....	73	46	2
Grand Forks	.....	.....	.....	.....	86	.....	71	.....	.....
Williston	415.3	478.7	87	+15	73	40	36	22	3
Moorhead, Minn	.....	.....	.....	.....	88	.....	73	.....	.....
Averages or extremes	340.2	475.8	72	+ 7	83	50	61	20	2

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	60.5	−2.3	94	28	3.55	+0.05	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.16	+2.66	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	2.21	−1.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.

Climatological Data for June, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	67.4	+3.9	93[a]	17	36	3	31	2.42	−1.59	0.82	0	7	14	13	3	ne.	E. T. Carley.
Arnegard	McKenzie	.....	1	68.4	.....	104	29	29	2	51	1.18	.....	0.61	0	4	15	15	0	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	65.6	+3.6	91	30	32	3	30	2.86	−0.60	1.42	0	5	18	5	7	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	105	29	.....	.....	.....	0.90	−2.91	0.80	0	2	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	25	72.0[a]	+9.4	108[a]	28	29[a]	2	49[a]	0.84	−3.29	0.80	0	2	28	2	0	se.	C. L. Hall.
Bierman	Slope	.....	3[b]	69.8	.....	105	29	28	2	38	0.98	.....	0.40	0	5	11	9	10	se.	E. F. Bierman.
Bismarck	Burleigh	1,674	45	69.0	+4.8	98	24	35	2	33	0.63	−2.91	0.24	0	5	9	15	6	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	67.6	+6.6	99	29	32	2	37	1.30	−1.93	0.47	0	5	11	6	13	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	64.9[d]	.....	95[b]	29	27[a]	2	39[b]	3.18	.....	1.35	0	6	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	68.0	.....	106	29	25	2	51	1.30	.....	0.50	0	4	19	10	1	se.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	92	17†	.....	.....	.....	8.70	+4.93	6.13	0	5	19	3	8	se.	J. M. Russell.
Carson	Grant	2,500	7	67.7	.....	101	29	28	2	42	1.73	.....	1.43	0	2	21	8	1	se.	J. W. Evens.
Colgate	Steele	1,177	5	65.6	.....	92	19	32	3	35	2.98	.....	0.75	0	7	19	7	4	se.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	3.45	−0.24	1.55	0	4	15	7	8	se.	S. Friswold.
Crosby	Divide	1,954	12	68.4	+7.8	96	24	34	1†	39	2.25	−0.77	1.25	0	5	19	11	0	se.	John Jensen.
Devils Lake	Ramsey	1,478	15	66.1	+3.5	90	17	36	2	31	3.58	+0.05	1.98	0	7	13	10	7	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	69.9	+8.6	108	29	28	2	48	0.52	−2.63	0.39	0	4	17	8	5	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	69.3[b]	+8.8	104[b]	29	33[b]	2	48[b]	2.26	−0.65	1.00	0	6	.....	.....	.....	se.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	69.0	.....	108	29	28	2	40	0.75	.....	0.65	0	2	23	7	0	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	66.2	+5.0	94	17†	28	2	37	1.54	−1.47	0.55	0	7	13	14	3	se.	J. G. Lamont.
Eckman	Bottineau	.....	14	66.7[a]	+5.4	98[a]	29	26[a]	2	49[a]	1.26	−1.67	1.04	0	3	18	11	1	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	66.4	+3.6	89	30	32	3	30	4.74	+1.34	2.69	0	9	0	22	8	se.	O. A. Thompson.
Ellendale	Dickey	1,449	21	66.6	+0.6	90	25	37	3	37	2.91	−0.49	1.59	0	8	7	13	10	s.	U. S. Weather Bureau.
Energy†‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	1.58	.....	0.70	0	5	.....	.....	.....	se.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	1.57	−1.56	0.85	0	2	18	12	0	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	65.4	.....	92	17†	30	2†	43	3.52	.....	2.04	0	6	16	10	4	se.	G. T. Seymour.
Forman	Sargent	1,249	27	.....	.....	94	30	.....	.....	.....	1.62	−2.12	1.35	0	3	17	9	4	se.	J. D. Lewis.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.45	0	3	21	8	1	se.	Verne King.
Fullerton	Dickey	1,439	21	66.9	+4.2	90	30†	37	2†	26	2.92	−0.42	1.32	0	5	15	9	6	ne.	F. O. Allin.
Garrison	McLean	1,901	24	66.4[a]	+4.2	100[a]	29	28[a]	2	41[a]	1.64	−1.73	1.03	0	3	13	15	2	se.	G. L. Robinson.
Grafton	Walsh	827	27	66.2	+3.7	89	30	30	3	37	2.46	−0.88	1.01	0	7	21	2	7	se.	A. R. T. Wylie.
Grand Forks†‡	Grand Forks	830	27	67.1	+4.2	90	30	39	3	28	2.39	−1.20	0.87	0	7	11	11	8	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	68.5[d]	.....	93[f]	25	33[a]	3	32[f]	2.65	.....	1.60	0	3	.....	.....	.....	s.	G. E. Pooley.
Granville	McHenry	1,504	12	67.6	+4.5	98	29	33	3	38	2.23	−0.69	1.24	0	6	9	12	9	se.	W. A. Christianson.
Hannah	Cavalier	1,568	14	64.0	+4.5	90	29	28	3	43	3.46	+0.01	1.84	0	4	14	14	2	s.	J. Moffatt.
Hansboro	Towner	1,597	11	66.5[c]	+6.1	88[c]	24†	31[c]	5	40[c]	3.00	+0.62	1.00	0	8	.....	.....	.....	se.	C. E. Blackorby.
Hettinger	Adams	2,253	11	68.6	+6.5	104	29	27	2	47	1.22	−2.29	0.55	0	4	25	3	2	se.	U. J. Downey.
Hillsboro	Traill	901	13	67.1	+2.7	90	25†	36	3	30	1.88	−1.68	0.67	0	10	12	14	4	se.	F. E. Mayall.
Howard†‡	Williams	2,275	12	67.4[a]	+7.7	101[a]	15	22[a]	2	47[a]	2.17	−0.71	1.26	0	2	.....	.....	.....	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	67.4	+4.3	90	17†	37	3	30	6.74	+3.05	2.20	0	9	.....	.....	.....	se.	S. Calvelage.
Lakota	Nelson	1,579	18	64.2	+3.5	88	17	34	3	30	1.83	−1.63	1.14	0	4	14	12	4	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	66.4[a]	+5.9	95[a]	27	29[a]	2	35[a]	2.22	−1.23	1.22	0	5	.....	.....	.....	se.	E. V. Virgin.
Langdon	Cavalier	1,615	23	64.7	+5.0	90	15	33	2	34	3.20	−0.42	1.06	0	7	21	3	6	se.	R. T. Burke.
Larimore	Grand Forks	1,134	24	66.0	+3.9	90	30	34	3	34	2.64	−0.95	1.20	0	7	15	7	8	se.	Reuben Gray.
Linton	Emmons	1,711	1	67.6[a]	.....	104[a]	28	30[a]	2	34[a]	1.19	.....	0.45	0	5	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	67.7	+4.6	94	30	31	3	32	2.51	−1.95	1.07	0	9	.....	.....	.....	se.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	2.28	.....	1.50	0	4	14	11	5	se.	Edw. Tapley.
McHenry	Foster	1,509	9	66.2	.....	86	17	33	3	32	4.33	.....	2.55	T.	8	16	11	3	se.	P. E. Trudeau.
McKinney†‡	Renville	1,640	25	65.7	+5.0	95	29	31	2	47	2.79	−0.55	1.20	0	6	24	5	1	se.	N. P. Swenson.
McLeod	Ransom	1,075	7	67.9	.....	92	17	35	3	33	3.78	.....	1.76	0	5	18	6	6	se.	R. D. Markland.
Maddock	Benson	1,604	4	66.0	.....	92	17†	29	2	39	2.02	.....	0.73	0	4	9	13	8	se.	A. T. Pelland.
Mandan	Morton	1,644	5	69.0	.....	102	29	32	3	36	1.17	.....	0.45	0	6	14	4	12	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	67.2	+5.7	94	30	32	2	34	5.08	+1.44	2.79	0	5	11	14	5	se.	P. B. Anderson.
Marmarth	Slope	.....	10	69.5	+9.2	108	29	28	2	48	1.19	−2.24	0.50	0	4	15	9	6	se.	S. P. Grane.
Mayville	Traill	975	23	67.4	+2.9	94	30	33	2	33	2.62	−1.02	1.03	0	7	12	9	9	ne.	W. C. Gould.
Melville	Foster	1,590	21	65.8[a]	+2.9	92	24	35[a]	2	33[d]	2.96	−0.65	1.14	0	5	.....	.....	.....	se.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman.
Minot	Ward	1,557	23	66.5	+4.0	99	29	27	2	48	2.02	−1.38	1.02	0	5	6	24	0	e.	W. I. Faris.
Minto	Walsh	820	26	67.6[d]	+3.7	90[c]	15†	32[d]	3	39[d]	3.60	+0.21	1.20	0	8	18	4	8	se.	C. M. Evans.
Mott	Hettinger	2,424	12	72.4	+9.4	105	29	27	2	36	2.14	−1.30	1.60	0	5	16	11	3	se.	O. H. Opland.
Napoleon	Logan	1,955	27	66.5	+4.3	96	31	30	3	40	1.78	−1.97	0.70	0	7	12	10	8	se.	C. J. Hoof.
New England	Hettinger	2,400	25	68.3[a]	+6.3	103[a]	28†	25[a]	2	42[b]	1.07	−1.70	0.37	0	4	.....	.....	.....	.....	W. C. McKenzie.
New Salem	Morton	2,163	14	67.1	+4.3	101	29	29	2	40	1.31	−2.74	0.56	0	5	23	6	1	se.	J. Christiansen.
Orange†‡	Adams	2,586	10	68.6	+6.3	103	29	24	2	47	2.12	−1.21	1.60	0	3	2	19	9	se.	T. F. Young.
Park River	Walsh	998	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	0.93	.....	0.48	0	2	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	67.6[e]	+5.0	98[c]	24	36[e]	3	37[f]	1.42	−2.16	0.68	0	3	.....	.....	.....	.....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	65.9	.....	94	30	33	2	34	1.44	.....	0.96	0	6	7	13	10	se.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	1.54	−2.48	1.00	0	5	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	2.09	.....	1.45	0	3	20	6	4	se.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. F. Solenberger.
Sherwood	Renville	1,500	1	64.7	.....	94	29	28	1†	48	2.65	.....	0.75	0	6	19	3	8	se.	Blake Lancaster.
Steele	Kidder	1,857	22	67.8	+5.4	92	24†	36	3	47	2.16	−1.23	1.00	0	5	22	8	0	se.	H. S. Wood.
Taylor	Stark	2,493	3	64.0[b]	.....	102[b]	29	30[b]	2	37[b]	1.25	.....	0.97	0	3	.....	.....	.....	se.	H. Leutz.
Towner	McHenry	1,482	17	68.6	+6.4	97	29	34	2	37	1.44	−1.80	0.85	0	4	21	7	2	se.	B. Bagley.
Turtle Lake	McLean	1,899	5	63.4	.....	98	29	32	2†	32	2.98	.....	1.00	0	5	21	9	0	se.	A. T. Anderson.
Valley City	Barnes	1,245	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. D. Palmer.
Wahpeton	Richland	962	25	67.0	+2.2	90	25	35	3	31	4.07	+0.13	1.58	0	8	.....	.....	.....	se.	F. E. Smith.
Walhalla	Pembina	966	12	67.2	+5.3	91	30	29	3	38	1.49	−1.67	0.60	0	5	13	13	4	s.	Ivan Lee.
Washburn	McLean	1,734	20	67.4	+3.3	93	24	31	2	37	5.18	+1.62	2.00	0	6	10	15	5	se.	Adolph Guenther.
Westhope	Bottineau	1,508	13	67.3	+5.7	96	29	31	2	44	2.07	−0.91	1.78	0	3	22	7	1	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	69.4	+5.9	99	29	33	2	33	2.64	−0.93	2.09	0	4	19	11	0	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	65.7	+4.7	97	29	27	2	43	1.01	−2.29	0.49	0	4	9	20	1	se.	M. A. Ostby.
Zap	Mercer	1,800	6	67.6	+6.4	106	29	25	2	39	0.83	−3.17	0.56	0	4	17	13	0	se.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	69.0	+4.7	90	25	38	3	29	2.50	−1.63	1.48	0	10	17	7	6	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	67.2	+4.4	108	28†	22	2	51	2.31	−1.19	6.13	T.	5	15	10	5	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Cremora, N. D.

Daily Precipitation for June, 1919.

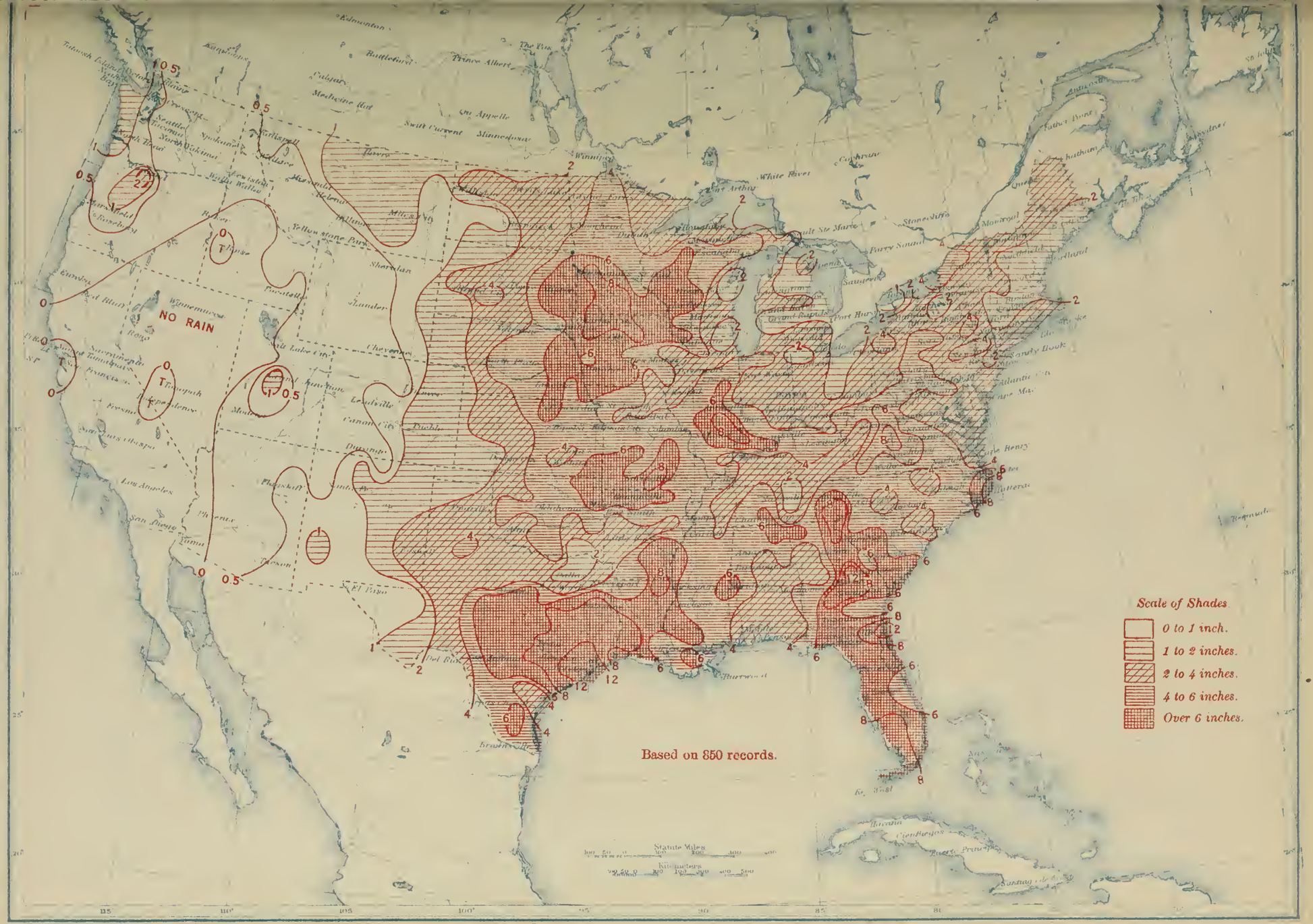
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red	.15			T.	.20	T.						.10						.12			.25	.82	.78			T.						2.42
Arnegard	Missouri													T.	.61						.19	T.							.29		.09	1.18
Ashley	Missouri						.80		.30			.19							.15		T.	1.42										2.86
Beach	Lit. Missouri								.10				.80																			0.90
Berthold Agency	Missouri									T.			.80									.04							T.	T.		0.84
Bierman	Lit. Missouri								.10				.35		.03										.10			.40				0.98
Bismarck ***	Missouri								.24				.23					.01			.12	.03										0.63
Bottineau‖ ‖	Mouse	T.								T.		T.	T.	.47		.01			.33				.25	T.							.24	1.30
Bowbells ‖ ‖	Mouse												1.35	.30		.70			.60										.09		.14	3.18
Bowman	Grand								.41				.50												.24			.15				1.30
Cando	Sheyenne								.05					2.00					.52			.83	5.30									8.70
Carson	Heart								.30					1.43																		1.73
Colgate	Sheyenne					.78	.10		T.				.30						.10			.70	.75		.20							2.93
Cooperstown	Sheyenne				.45	.10						.35										1.55	1.00									3.45
Crosby	Mouse							.05					.51													.02	.42				1.25	2.25
Devils Lake ***	Sheyenne					T.			.05			.70	.09	.22				.52			1.14	.86										3.58
Dickinson‖ ‖	Heart								.06	.02				.39							T.		T.							.05		0.52
Donnybrook	Mouse							T.					.22	.50				1.00			.10	.06							T.	.38		2.26
Dunn Center	Knife								T.					.65									T.						.10			0.75
Dunseith	Mouse								.04			T.	T.	.55		.01		.39				.42			.05					.08		1.54
Eckman	Mouse												1.04					.07				T.							.15			1.26
Edgeley	James	.02				1.12	.01		.10			.01	.34					.17			.28	2.69										4.74
Ellendale ***	James	T.		T.	.68	.28	T.		.09	T.		.04						.18	.02		.43	1.19										2.91
Energy	Missouri		T.						.38					.31				.70			.16						.03					1.58
Epping	Missouri												.72																	.85		1.57
Fessenden‖ ‖	James	.17					T.		.03	.09		T.	T.	T.					.80			.39	2.04									3.52
Forman	Sheyenne				.12	.15																1.35										1.62
Fryburg	Lit. Missouri							T.	.19				.45		T.									.06								0.70
Fullerton	James	T.			T.	.92	T.		.16			.12					T.				.40	1.32										2.92
Garrison	Missouri								.27					.34				1.03				T.										1.64
Grafton‖‖	Red						.15			.07			.80					.23	.05				1.01	.15								2.46
Grand Forks ***	Red				.20	.46			.08			.28						.33				.69	.35									2.39
Grand Rapids	James					.95	.10					T.										1.60										2.65
Granville	Mouse								.12				1.24					.45			.19	.20								.03		2.23
Hannah	Pembina								T.			.57	1.84					.54				.51	T.									3.46
Hansboro	Red								.15					.60		.25		.40				1.00	.35			.10				.15		3.00
Hettinger	Grand								.55					.42											.18				.07			1.22
Hillsboro	Red				.05	.67	.05			.01		.04	.11	.07				.06				.64	.18									1.88
Howard	Missouri										T.		.91	T.		T.	T.					T.		T.		T.	T.			1.26		2.17
Jamestown ‖ ‖	James	.02				.60	.15			.05			.22								.20		1.70	2.20	1.60								6.74
Lakota	Sheyenne					T.			T.					.22					.17			1.14	.30									1.83
Lamoine	Missouri						.08			T.								.79			*	1.22		.13								2.22
Langdon‖ ‖	Pembina	.10								.09			.15	.66					1.06				.98	.16								3.20
Larimore ‖ ‖	Red	.04				.40	.08			.16			.70										1.20	.06								2.64
Linton	Missouri							.10	.31								.15				.45	.18										1.19
Lisbon	Sheyenne	.18			.05	.30	.05			.08		T.	.12									1.07	.56				.10					2.51
McClusky	Missouri								.30					.42							.06	1.50										2.28
McHenry	James				T.	.25			.15			1.03	.02					.25			.08	1.50	1.05									4.33
McKinney	Mouse							T.					.11	.70				1.20				.33			.05				.40			2.79
McLeod	Sheyenne					.35						.05									.30	1.32				1.76						3.78
Maddock	Sheyenne								.10										.59			.60	.73									2.02
Mandan‖ ‖	Missouri	.05							.09	.15				.45					.17			.26										1.17
Manfred	Sheyenne								.15									.72	.16		T.	1.26	2.79									5.08
Marmarth	Lit. Missouri								.15				.30												.24		.50			T.		1.19
Mayville	Red					1.03	.05			.02			.45									.97	.06	.04								2.62
Melville	James					13			T.		T.							.35			.25	1.14	1.09									2.96
Milnor	Red																															
Minot ‖ ‖	Mouse													1.02					.75			.08		.07							.10		2.02
Minto	Red					.20			.16	.02		.13	.44					1.20				.60	.85									3.60
Mott	Cannon Ball								1.60				.20	.21											.05				.08			2.14
Napoleon ‖ ‖	Missouri	.30				.04	.20			.08									.05			.70	.41									1.78
New England ‖ ‖	Cannon Ball								.15	.12				.43														.37				1.07
New Salem	Heart								.49					.56				.09	.04		.23											1.41
Orange	Cannon Ball								.12				1.60												.40							2.12
Park River	Red																															
Parshall	Missouri													.45																.48		0.93
Pembina ‖ ‖	Red	.10											.64										.68									1.42
Pettibone	James					.15			.07									.21			*	.96	.05									1.44
Power	Missouri				.06	.18						.18		.56								1.00						.12				1.54
Powers Lake	Sheyenne												.35	1.45								T.								.29		2.09
Selfridge	Missouri																															
Sherwood	Mouse							T.					.48	.43	.15			.75				.29		T.	T.				.55			2.65
Steele	Missouri				T.	.01				.20				.28				.50			.45	1.00										2.16
Taylor	Heart								.23					.97								.05										1.25
Towner	Mouse								.33					.85				T.			T.	.12					.14					1.44
Turtle Lake	Missouri								.59					1.00				.50	.02			.87	T.									2.98
Valley City	Sheyenne																															
Wahpeton‖ ‖	Red	.30			.55	.10				.45			.08						.04			1.58	.97									4.07
Walhalla	Pembina								T.					.10					.01	.46		.60	.32									1.49
Washburn	Missouri	.05							.62					.28				1.20			1.03	2.00										5.18
Westhope	Mouse													1.78					.21			.08										2.07
Williston ***	Missouri							.01				T.	2.09					T.							T.				.04	.50		2.64
Willow City	Mouse								.08			T.		.49					.19			.25								T.		1.01
Zap	Knife								.19					.56							.05	.03										0.83
Moorhead, Minn ***	Red			.06	.08	.26	.01					.05	.01					.27			.02	.82	.92			T.						2.50

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	....	63	67	59	68	70	78	73	72	71	73	75	75	86	82	89	93	90	87	86	72	87	80	91	90	82	80	80	82	91	....	[a]79.0
	Minimum	43	39	36	45	51	52	54	52	47	48	50	64	63	60	68	61	66	62	56	59	63	65	64	61	67	53	54	58	65	67	....	56.4
Ashley	Maximum	52	57	60	63	57	59	72	68	64	69	71	85	82	82	81	86	86	82	81	77	80	82	80	88	90	77	80	79	84	91	....	75.5
	Minimum	41	35	32	46	50	48	50	49	44	54	61	62	54	60	59	60	66	58	58	59	64	67	61	58	63	59	61	64	66	68	....	55.8
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Berthold Agency	Maximum	62	69	77	79	82	86	83	....	74	83	89	92	84	93	94	97	95	94	92	88	85	92	93	107	94	88	101	108	107	98	....	[a]89.2
	Minimum	38	29	35	38	41	37	53	....	31	54	57	56	56	64	62	67	66	55	64	51	63	60	[a]51	64	62	63	68	68	72	61	....	[a]54.7
Bismarck	Maximum	58	64	67	73	73	77	82	57	68	74	78	86	82	87	87	91	93	85	84	80	85	80	83	98	86	83	89	93	97	93	....	81.1
	Minimum	41	35	36	42	48	45	51	46	39	58	62	55	57	65	63	66	64	59	62	56	64	64	59	68	64	63	68	67	72	74	....	57.0
Bottineau	Maximum	58	61	72	75	74	79	81	64	73	76	78	88	78	91	92	89	97	84	86	86	71	81	85	95	82	81	87	90	99	84	....	81.2
	Minimum	33	32	36	42	45	45	49	45	36	50	56	58	60	61	58	63	68	57	60	55	62	60	60	61	65	55	58	64	65	61	....	54.0
Bowbells §§	Maximum	59	62	74	75	75	78	70	68	73	83	85	83	....	....	....	....	....	....	....	....	70	77	83	94	87	88	91	90	95	82	....	[b]79.2
	Minimum	30	27	38	36	38	41	49	40	34	46	54	54	54	56	65	....	53	53	56	57	54	57	57	67	55	53	56	60	62	65	....	[a]50.6
Carson	Maximum	60	65	72	70	72	80	84	68	66	75	77	87	82	84	85	90	95	85	80	75	84	88	95	100	90	90	95	100	101	93	....	82.9
	Minimum	40	28	50	50	40	38	48	45	35	45	57	60	52	44	50	55	55	65	57	50	62	60	55	60	56	60	63	65	65	65	....	52.5
Crosby	Maximum	59	60	73	73	74	81	80	76	71	80	86	75	78	91	90	93	87	87	90	84	78	90	89	96	85	81	95	93	90	76	....	82.0
	Minimum	34	34	45	57	45	49	56	47	40	56	63	52	53	64	59	64	66	61	54	62	59	51	54	64	52	53	63	69	66	52	....	54.8
Devils Lake	Maximum	56	59	65	67	63	73	79	60	71	72	75	78	76	86	88	85	90	82	82	85	68	79	79	86	80	78	79	82	87	88	....	76.6
	Minimum	40	36	37	43	49	49	48	47	40	48	58	63	60	60	61	64	62	61	58	58	60	66	65	63	61	54	57	63	67	71	....	55.6
Dickinson	Maximum	60	64	72	74	74	85	81	63	69	81	89	84	81	94	93	93	94	89	85	85	86	90	97	101	91	94	98	105	108	94	....	85.8
	Minimum	40	28	36	35	44	37	48	47	30	54	58	59	51	62	61	66	66	56	57	52	64	63	53	58	60	62	71	68	73	61	....	54.0
Donnybrook	Maximum	63	65	75	79	....	85	80	69	75	89	85	85	82	92	....	94	94	89	88	87	70	78	88	102	85	84	100	92	104	85	....	[b]84.4
	Minimum	36	33	34	41	....	37	53	43	41	46	59	60	57	57	....	63	64	62	58	51	62	60	53	65	60	52	79	60	73	58	....	[b]54.2
Dunseith	Maximum	61	58	67	74	72	76	81	70	70	73	75	84	82	87	88	87	94	81	81	84	76	75	80	89	86	77	83	85	94	90	....	79.3
	Minimum	38	28	33	37	46	40	46	47	35	48	55	60	56	57	56	61	61	59	68	56	58	58	60	59	62	56	56	63	68	63	....	53.0
Edgeley	Maximum	58	59	62	65	61	64	75	75	66	70	73	84	83	85	85	86	87	85	84	79	81	83	81	87	88	79	82	83	84	89	....	77.4
	Minimum	43	38	32	48	48	51	43	49	45	45	62	64	55	59	58	61	66	60	54	57	63	67	61	58	66	49	58	64	66	70	....	55.3
Ellendale	Maximum	54	57	57	59	61	63	74	65	62	71	73	83	83	83	81	86	86	83	80	75	80	84	80	85	90	77	82	81	83	88	....	75.5
	Minimum	45	40	37	49	52	53	46	51	49	55	61	65	60	61	63	63	64	62	59	61	65	67	63	60	66	58	59	63	66	71	....	57.8
Fessenden	Maximum	60	63	67	72	69	74	85	65	71	73	76	83	83	88	89	87	92	83	81	79	72	81	81	89	83	77	82	84	88	92	....	79.0
	Minimum	37	30	30	37	44	44	42	48	34	45	52	56	54	56	56	60	60	56	55	52	59	63	59	58	63	50	55	63	66	69	....	51.8
Forman	Maximum	61	60	61	56	66	65	75	70	64	70	80	90	90	89	87	89	91	88	86	82	83	88	82	89	92	82	82	84	88	94	....	79.5
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fullerton	Maximum	54	58	59	59	61	64	78	65	65	71	77	85	83	85	84	87	87	84	81	82	84	85	79	89	90	78	82	83	85	90	....	77.1
	Minimum	41	37	37	49	53	57	57	48	50	55	62	64	58	60	68	70	69	58	60	57	64	68	69	68	65	58	62	65	66	71	....	56.7
Garrison	Maximum	52	62	69	73	73	79	78	65	70	77	78	84	77	89	90	91	94	89	84	80	74	75	83	92	85	82	....	94	100	94	....	[a]80.4
	Minimum	35	28	34	35	41	40	37	48	38	48	58	60	57	62	62	64	66	64	60	52	52	60	52	63	63	58	....	62	60	62	....	[a]52.4
Grafton	Maximum	59	60	67	65	63	63	76	65	72	74	78	83	80	87	88	88	88	86	84	86	74	78	83	87	85	79	79	80	85	89	....	77.7
	Minimum	42	40	30	50	51	53	50	52	40	45	57	64	63	57	56	61	66	58	52	56	60	63	63	59	65	52	56	55	60	67	....	54.8
Grand Forks	Maximum	58	59	67	60	61	67	73	67	70	70	72	82	81	87	87	86	88	84	83	85	72	77	80	86	84	78	80	79	85	90	....	76.6
	Minimum	44	43	39	52	53	53	53	55	44	53	59	66	65	60	63	63	66	62	56	63	62	66	63	61	62	52	60	57	63	70	....	57.6
Granville	Maximum	64	69	70	73	78	79	75	75	72	79	79	83	74	88	86	90	92	85	82	83	72	78	84	94	85	82	80	93	98	84	....	80.9
	Minimum	37	34	33	48	40	44	45	44	35	49	60	58	54	60	58	62	65	60	62	50	62	62	54	65	64	62	60	69	70	64	....	54.3
Hannah	Maximum	60	61	66	67	70	72	80	73	78	81	78	82	81	84	74	84	88	84	81	83	79	80	82	83	80	79	84	86	90	88	....	78.6
	Minimum	42	29	28	33	40	41	39	40	35	41	45	52	60	63	57	58	60	57	54	55	56	58	57	56	55	53	56	54	56	55	....	49.5
Hansboro	Maximum	....	....	....	71	68	77	84	73	72	73	76	85	80	85	87	87	84	82	82	85	68	78	83	88	76	76	81	88	88	85	....	[c]80.1
	Minimum	....	....	....	32	31	37	42	47	35	42	54	60	58	53	56	60	61	55	45	55	60	60	60	60	50	62	66	66	64	....	[c]52.9
Hettinger	Maximum	64	65	69	72	73	81	79	62	65	79	85	86	80	88	90	93	92	87	84	82	91	98	97	99	94	92	95	101	104	97	....	84.8
	Minimum	43	27	36	32	41	34	49	45	36	44	48	46	52	63	60	64	65	56	52	48	63	56	58	61	54	62	66	71	71	67	....	52.3
Howard	Maximum	55	69	72	74	76	85	72	70	80	82	85	82	84	92	101	95	86	86	90	85	77	85	92	99	86	86	99	96	98	....	....	[a]84.1
	Minimum	25	22	43	38	40	45	48	43	40	42	42	42	52	58	72	62	62	72	65	54	54	54	54	56	56	54	58	52	62	....	....	[a]50.6
Jamestown	Maximum	57	60	64	66	62	62	77	76	67	71	74	84	83	87	86	85	90	87	82	82	77	80	80	88	86	77	82	84	86	90	....	77.7
	Minimum	45	39	37	48	51	41	47	51	45	56	60	63	59	61	61	63	69	60	58	58	62	67	64	64	67	56	59	64	67	71	....	57.1
Lakota	Maximum	54	58	60	64	61	66	73	70	69	71	69	79	79	85	87	84	88	84	81	84	75	78	79	78	77	77	82	85	86	....	....	75.3
	Minimum	39	35	34	48	51	57	45	45	43	41	55	59	58	58	58	70	66	57	54	56	56	53	58	53	50	52	55	56	56	65	....	53.2
Lamoine	Maximum	58	58	65	58	68	70	81	56	68	75	75	....	80	89	89	89	91	89	80	80	80	80	81	78	89	80	76	95	89	93	93	78.4
	Minimum	40	29	34	42	42	46	48	46	38	48	60	....	55	62	61	62	60	68	55	55	61	60	56	65	62	56	60	65	68	71	....	54.3
Langdon	Maximum	55	55	60	66	66	71	79	75	70	72	73	82	74	84	90	85	88	79	79	83	83	80	76	85	85	76	76	78	86	81	....	76.4
	Minimum	38	33	35	35	45	42	45	48	38	46	55	62	59	56	58	62	66	59	56	56	60	60	64	60	60	52	54	52	66	63	....	53.0
Larimore	Maximum	58	60	68	63	59	64	75	60	70	72	72	82	81	82	88	85	89	86	85	85	70	76	80	88	81	80	79	79	85	90	....	76.4
	Minimum	42	38	34	50	51	51	51	52	42	58	57	56	62	58	58	61	67	60	58	56	60	59	64	61	65	53	57	59	60	67	....	55.6
Lisbon	Maximum	66	58	63	58	65	71	75	72	68	69	73	87	87	92	89	85	90	87	84	83	78	85	80	87	88	76	79	83	87	94	....	78.6
	Minimum	49	41	31	49	48	44	53	55	48	61	48	61	62	62	65	62	65	65	66	53	60	63	67	65	70	56	55	57	65	69	....	56.8
McHenry	Maximum	69	60	65	66	64	68	66	60	69	66	73	80	84	77	75	87	86	83	83	80	84	85	80	82	82	83	77	80	84	85	....	75.9
	Minimum	52	36	53	43	44	50	54	44	39	43	49	50	52	56	49	59	63	70	73	72	64	70	69	68	68	54	56	69	75	70	....	56.5
McKinney	Maximum	59	69	73	80	76	80	74	66	75	80	82	83	80	90	90	91	93	85	78	82	72	78	84	93	86	82	90	93	95	88	....	81.5
	Minimum	35	31	32	35	35	33	40	40	40	46	46	55	35	60	60	64	60	58	58	47	60	62	53	65	60	50	50	70	58	50	....	49.9
Maddock	Maximum	57	58	67	72	71	75	81	65	70	74	77	80	79	88	91	88	92	92	81	83	69	79	79	87	88	78	82	85	92	89	....	79.0
	Minimum	37	29	30	33	44	40	43	50	36	45	58	60	54	57	57	59	68	58	55	55	60	61	61	60	67	51	55	63	69	79	....	53.1
Marmarth	Maximum	60	66	73	73	73	86	74	57	67	88	90	85	80	97	99	99	88	89	88	86	95	100	101	99	93	95	98	99	108	93	....	86.6
	Minimum	33	28	36	40	44	38	52	45	35	54	58	48	48	60	57	58	64	57	56	57	56	56	61	61	53	60	65	64	64	64	....	52.4
Minot	Maximum	63	64	72	77	77	80	80	70	72	80	82	87	79	91	92	92	97	88	85	85	72	78	85	95	85	81	90	92	99	94	....	83.0
	Minimum	33	27	29	35	38	32	46	41	33	44	56	57	55	55	58	60	65	57	57	47	58	56	52	60	59	49	49	66	69	57	....	50.0
Mott	Maximum	76	57	68	73	78	80	74	58	73	80	82	92	81	87	90	91	93	86	90	93	92	90	64	78	95	96	96	102	105	93	....	84.8
	Minimum	42	27	35	40	44	51	46	42	54	57	63	68	61	67	72	70	68	68	58	62	67	72	58	66	70	70	67	79	84	70	....	59.9
Napoleon	Maximum	57	61	65	68	61	68	82	68	68	73	73	87	83	85	89	90	88	84	83	84	84	80	95	88	81	88	88	88	93	....	....	79.6
	Minimum	40	33	30	39	50	51	42	48	37	54	60	59	53	58	59	65	55	53	53	53	62	66	56	58	60	59	62	52	66	70	....	53.4
New England §§	Maximum	58	67	72	72	71	85	74	55	63	86	85	83	78	85	92	92	87	86	88	82	93	85	93	....	90	92	95	103	103	88	....	[a]82.9
	Minimum	40	25	32	35	40	39	50	49	35	47	58	61	52	56	78	60	65	55	56	56	62	58	59	60	....	63	67	63	73	62	....	[a]53.7
New Salem	Maximum	72	61	68	69	69	79	68	67	67	75	77	81	80	82	86	89	92	84	83	78	82	82	86	96	93	85	94	97	101	81	....	81.0
	Minimum	48	29	31	35	42	39	47	44	34	52	55	57	51	48	58	62	64	55	56	58	60	63	60	58	62	69	64	65	68	70	....	53.2
Orange	Maximum	59	64	65	71	73	79	81	74	78	77	84	89	79	85	88	91	93	83	82	76	89	92	94	98	95	91	95	101	103	96	....	84.2
	Minimum	43	24	32	28	44	32	46	29	50	56	58	54	63	60	63	64	64	56	52	47	64	57	51	73	55	61	67	65	70	64	....	53.1
Park River	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	88	86	84	79	82	82	88	89	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	58	59	66	55	53	62	65	69	....	....
Pembina §§	Maximum	61	59	66	68	66	73	79	62	79	81	81	91	88	....	....	....	....	....	91	88	81	88	88	98	82	78	88	89	91	94	....	[a]80.4
	Minimum	41	39	36	47	48	48	51	48	42	54	59	61	64	64	....	....	....	....	....	....	62	64	61	66	62	66	52	51	56	62	68	....	[a]54.9
Steele	Maximum	83	66	66	75	76	67	67	66	69	75	75	82	78	79	75	87	91	89	87	89	81	80	82	92	86	88	90	86	91	92	....	80.3
	Minimum	36	46	36	46	48	48	50	45	50	50	52	57	55	58	60	65	68	60	56	59	52	58	54	60	65	66	60	65	68	70	....	55.3
Towner	Maximum	62	70	75	75	70	79	82	78	72	76	78	86	80	84	89	89	92	82	84	84	78	78	86	94	91	87	86	87	97	95	....	82.2
	Minimum	37	34	38	41	39	45	48	46	38	46	56	60	45	64	62	60	65	64	64	56	61	62	62	62	65	66	63	61	68	68	....	54.9
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Wahpeton	Maximum	60	60	61	59	67	69	75	66	65	68	75	83	90	85	75	83	87	87	84	73	67	86	80	85	90	79	75	75	80	88	....	75.9
	Minimum	45	42	35	50	52	52	53	53	59	58	59	65	67	64	65	62	65	62	58	67	64	64	63	62	69	56	58	57	59	66	....	58.1
Westhope	Maximum	59	63	74	74	74	82	78	66	77	79	79	86	76	88	91	90	93	86	85	87	70	85	87	95	81	82	89	93	96	83	....	81.6
	Minimum	40	31	33	37	36	38	48	40	33	46	58	58	59	59	59	62	66	59	51	50	61	59	56	62	62	60	60	68	69	69	....	53.0
Williston	Maximum	58	66	76	75	76	84	68	64	68	82	88	76	78	93	91	95	88	85	87	82	76	86	96	98	86	87	97	96	99	80	....	82.7
	Minimum	34	33	47	43	47	53	52	48	39	60	64	54	54	64	61	70	60	54	58	62	60	60	57	66	59	64	70	73	55	58	....	56.0
Willow City	Maximum	60	59	72	74	71	78	79	63	73	77	76	86	78	90	91	89	93	84	87	85	73	78	83	94	82	81	88	89	97	87	....	80.6
	Minimum	34	27	32	32	42	39	42	47	34	46	56	58	58	57	58	60	62	58	47	42	40	61	53	59	64	50	58	65	69	75	....	50.8
Zap	Maximum	59	63	71	73	74	74	74	62	70	78	83	84	78	88	89	92	92	90	85	83	80	83	86	99	88	87	94	101	106	88	....	82.5
	Minimum	38	25	33	34	44	36	49	48	32	54	57	58	[a]54	62	60	64	66	58	53	48	60	60	49	61	49	61	65	66	76	59	....	52.6
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing, [b], 2 days, etc.


NO RAIN
Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 850 records.
Statute Miles
Kilometers

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JULY, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 4, 1919.

Departure of the Mean Temperature from the Normal, July, 1919.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., JULY, 1919. No. 7.

GENERAL SUMMARY.

The month was characterized by hot weather, with generally deficient rainfall and cloudiness. The temperature was above normal on nearly all days of the month, the daily excess averaging about four degrees. While the rainfall was generally deficient, excessive amounts were recorded in the extreme southeastern portion of the State, and in the Red River Valley, except the extreme northern portion. The monthly amounts in these sections varied from three to six inches, but the decrease westward and northwestward was rapid, and the greater portion of the remainder of the State received less than one inch; Renville, Burke and Divide counties, however, received from two to over three inches. Crops suffered serious deterioration during the month. Black rust and blight changed the spring wheat conditions from generally excellent in the eastern portion at the beginning of the month to a fair to good outlook at the end of the month. Continued drought and damage by grasshoppers were the chief causes of deterioration in the western and northern portions. Corn, however, was in excellent condition in the southeastern portion, and withstood the drought well in the drier sections. The rye crop was harvested during the month, with indications of fair to good yields.

TEMPERATURE.

The mean temperature for the State was 71.2°, or 3.7° above the normal, and 5.7° higher than the mean for July, 1918. The highest mean reported was 74.7° at Mott, Hettinger County; the lowest was 67.3° at Langdon, Cavalier County. The highest temperature reported was 105° on the 17th at Arnegard, McKenzie County, Berthold Agency, McLean County, Dickinson, Stark County, and Donnybrook, Ward County; the lowest was 37° at Willow City, Bottineau County, on the 10th. The greatest monthly range was 66° at Willow City, Bottineau County; the least was 44° at Grand Forks, Grand Forks County, Lisbon, Ransom County, and McHenry, Eddy County. The greatest daily range was 55° at Berthold Agency, McLean County, and Bowman, Bowman County, on the 10th.

PRECIPITATION.

The average precipitation for the State was 1.81 inches, or 0.80 inch less than the normal, and 0.90 inch less than the average for July, 1918. The greatest monthly amount reported was 6.10 inches at Grand Rapids, LaMoure County; the least was 0.11 inch at Lamoine, Kidder County. The greatest amount recorded in any twenty-four consecutive hours was 2.40 inches at Grand Rapids, LaMoure County, on the 30th. The average number of days with 0.01 inch or more of precipitation was 5. The rainfall was very unevenly distributed over the State, but the distribution through the month was fairly uniform. The days on which showers were most numerous were the 1st, 2d, 7th, 14th, 18th, 29th and 30th. —E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.93	30.30	15	29.45	26	57	7,349	9.9	42	se.	6
Devils Lake	29.91	30.21	31	29.50	26	44	6,540	8.8	33	se.	26
Ellendale	29.93	30.24	15	29.48	26	56	8,699	11.7	46	s.	1
Grand Forks	29.90	30.17	15	29.53	2	90	.....	.....	30	se.	1
Williston	29.88	30.21	15	29.41	17	48	5,965	8.0	64	w.	6
Moorhead, Minn	29.94	30.22	15	29.45	26	57	5,742	7.7	36	se.	7
Averages or extremes.	29.92	30.30	15	29.41	17	.....	.....	9.2	64	w.	6

* For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	344.1	479.2	72	+ 1	72	39	36	13	8
Devils Lake	326.9	483.1	68	+ 2	80	51	51	30	27
Ellendale	371.9	475.2	78	.....	87	.....	66	42	17
Grand Forks	.....	.....	.....	.....	82	.....	66	.....	.....
Williston	380.1	483.1	79	+ 8	71	37	34	13	17
Moorhead, Minn	.....	.....	.....	.....	87	.....	62	.....	.....
Averages or extremes	355.7	480.2	74	+ 4	80	42	52	13	8*

* And other dates.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.53	−2.08	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919...	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.

Climatological Data for July, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	71.2[a]	+2.5	99[b]	26	48	8†	39[b]	2.59	−0.59	1.02	0	5	17	10	4	n.	E. T. Carley.
Arnegard	McKenzie	.....	1	72.6	.....	105	17	45	10	51	0.16	.....	0.12	0	2	27	2	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	70.6	+2.2	98	26	45	19	41	3.03	+0.39	1.90	0	5	23	7	0	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. J. Steiner.
Berthold Agency†‡	McLean	2,082	25	73.6	+4.7	105	17	43	9	55	1.16	−0.78	0.80	0	5	24	5	2	nw.	C. L. Hall.
Bierman	Slope	.....	3	74.7	.....	103	17	47	19	48	1.14	.....	1.10	0	2	18	4	9	nw.	E. F. Bierman.
Bismarck	Burleigh	1,674	45	73.3	+3.1	100	17	47	19	44	0.76	−1.38	0.56	0	5	11	18	2	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	69.7	+3.9	103	17	42	10†	49	0.71	−1.67	0.30	0	9	.....	.....	.....	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	68.4	.....	101	17	40	28	49	2.11	.....	0.71	0	5	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	72.3	.....	103	17	43	21	55	0.70	.....	0.17	0	8	22	7	2	nw.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	97	26	.....	.....	.....	1.30	−1.31	0.75	0	6	20	2	9	se.	J. M. Russell.
Carson	Grant	2,500	7	72.7	.....	103	22	50	8†	48	1.70	.....	1.40	0	4	18	12	1	nw.	J. W. Evens.
Colgate	Steele	1,177	5	68.6	.....	95	16	43	11	45	2.95	.....	1.30	0	6	22	8	1	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	3.15	+0.33	1.35	0	4	22	9	0	se.	S. Friswold.
Crosby	Divide	1,954	12	68.8	+2.9	97	17	51	3†	39	3.67	+1.75	1.89	0	4	15	14	2	se.	John Jensen.
Devils Lake	Ramsey	1,478	15	70.0	+1.9	95	25	48	10	36	1.76	−2.02	0.64	0	8	15	10	6	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	73.8	+5.8	105	17	42	19	51	0.53	−1.87	0.22	0	5	21	8	2	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	71.4[b]	+5.6	105[b]	17	44[b]	10	52	0.72	−2.08	0.20	0	4	.....	.....	.....	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	71.9	.....	103	17	42	19	52	0.21	.....	0.15	0	3	24	5	2	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	69.1	+4.7	101	17	41	8†	47	0.69	−1.75	0.25	0	5	22	7	2	ne.	J. G. Lamont.
Eckman	Bottineau	.....	14	70.7[a]	+4.9	103[a]	17	42[a]	10	49[a]	0.47	−2.10	0.19	0	4	19	10	2	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	70.3	+1.8	99	26	44	19	39	3.68	+0.94	2.15	0	4	6	21	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	69.7	.....	97	26	49	12	36	4.17	+1.27	1.60	0	9	10	15	6	s.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.42	.....	0.21	0	4	12	17	2	ne.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	1.38	−0.60	1.20	0	2	19	11	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	69.6	.....	99	17	44	10†	46	0.72	.....	0.33	0	4	12	16	3	se.	G. T. Seymour.
Forman	Sargent	1,249	27	.....	.....	100	25†	.....	.....	.....	4.22	+1.21	1.08	0	6	12	16	3	se.	J. D. Lewis.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.70	0	3	21	9	1	s.	Verne King.
Fullerton	Dickey	1,439	21	72.7	+4.3	95	26	49	12	34	5.25	+2.08	1.21	0	7	24	4	3	s.	F. O. Alin.
Garrison	McLean	1,901	24	70.8[a]	+2.7	101[a]	17	44[a]	9	47[a]	1.12	−0.96	0.79	0	6	19	11	1	se.	G. L. Robinson.
Grafton	Walsh	827	27	69.0	+1.5	93	16	41	10	43	1.98	−0.52	0.48	0	9	23	2	6	se.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	69.6	+2.2	91	2	47	10	37	4.16	+1.46	2.00	0	5	20	7	4	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	71.4	.....	97	26	46	11	40	6.10	.....	2.40	0	4	23	2	6	.....	G. E. Pooley.
Granville	McHenry	1,504	12	70.6	+3.5	102	17	44	10	45	0.59	−1.51	0.21	0	5	17	11	3	se.	W. A. Christianson.
Hannah	Cavalier	1,568	14	68.4	+3.8	97	17†	45	19†	46	1.82	−0.65	1.32	0	3	21	8	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	68.8	+3.4	101	25	42	3	47	0.97	−1.17	0.45	0	5	20	11	0	s.	C. E. Blackorby.
Hettinger	Adams	2,253	11	74.0	+4.5	102	17†	44	9†	51	1.80	−1.00	1.57	0	5	27	2	2	se.	U. J. Downey.
Hillsboro	Traill	901	13	70.7	+1.2	93	1	46	10	34	4.01	+1.23	1.96	0	5	14	17	0	s.	F. E. Mayall.
Howard †‡	Williams	2,275	12	71.0[p]	+5.5	96[p]	22	43[p]	22	53[p]	1.60	+0.04	0.67	0	4	15	13	3	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	71.6	+3.1	96	17	46	19	42	2.32	−0.42	0.70	0	5	20	1	10	ne.	S. Calvelage.
Lakota	Nelson	1,579	18	68.4	+2.8	94	25	40	10	44	0.74	−2.20	0.58	0	3	19	8	4	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	71.0	+5.2	99	17	43	9	46	0.11	−2.46	0.11	0	1	20	8	3	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	23	67.3	+2.8	98	25	40	10	52	0.71	−1.95	0.27	0	5	21	2	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	69.8	+3.1	91	16†	45	8	41	3.36	+0.37	2.12	0	5	14	11	6	s.	Reuben Gray.
Linton	Emmons	1,711	1	72.0	.....	100	1†	40	10†	51	1.95	.....	1.55	0	3	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	73.4[a]	+5.2	97	17	53[b]	7	38[b]	4.04	+0.56	2.11	0	8	.....	.....	.....	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.60	0	3	24	7	0	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	74.6	.....	91	17†	47	8	37	1.02	.....	0.55	0	5	21	9	1	se.	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	68.2	+2.2	101	17	42	9†	54	2.05	+0.01	1.20	0	4	25	4	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	71.4	.....	98	17†	48	12	39	4.42	.....	2.35	0	5	23	7	1	se.	R. D. Markland.
Maddock	Benson	1,604	4	71.4	.....	100	17	41	10	43	0.92	.....	0.47	0	3	14	15	2	se.	A. T. Felland.
Mandan	Morton	1,644	5	74.2	.....	103	17	47	21	46	0.85	.....	0.85	0	7	13	7	11	e.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	70.6	+3.7	98	17	48	19	40	1.23	−1.02	0.74	0	3	20	9	2	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	73.6	+5.8	104	17	45	8	49	0.23	−1.59	0.10	0	5	15	12	4	nw.	S. P. Grane.
Mayville	Traill	975	23	72.2	+2.8	97	18	44	10	39	3.18	+0.10	0.90	0	7	20	5	6	sw.	W. C. Gould.
Melville	Foster	1,590	21	71.8[a]	+3.9	98[a]	17†	46[a]	19	42[a]	0.84	−2.06	0.50	0	3	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman.
Minot	Ward	1,557	23	69.3	+1.2	103	17	39	10	53	0.43	−1.46	0.15	0	8	9	22	0	w.	W. I. Faris.
Minto	Walsh	820	26	70.6[a]	+3.5	94[a]	16	45	10	42	3.30	+0.49	1.85	0	8	19	8	4	se.	C. M. Evans.
Mott	Hettinger	2,424	12	74.7	+5.6	101	22	48	8	45	2.23	−0.15	1.20	0	4	15	13	3	se.	O. H. Opland.
Napoleon	Logan	1,955	27	73.5	+5.2	100	22†	42	19	48	1.57	−0.91	1.05	0	8	7	21	3	ne.	C. J. Hoof.
New England	Hettinger	2,400	25	73.0[b]	+4.5	101[b]	18	45[b]	9	49[b]	0.74	−1.29	0.37	0	3	.....	.....	.....	.....	W. C. McKenzie.
New Salem	Morton	2,163	14	72.3	+3.0	101	22	46	10	47	0.76	−1.43	0.26	0	5	20	10	1	se.	J. Christiansen.
Orange †‡	Adams	2,586	10	72.0	+3.4	102	22	39	8	51	1.09	−0.82	0.82	0	3	6	19	6	se.	T. F. Young.
Park River	Walsh	998	15	70.4	+2.6	93	16†	46	10	40	0.73	−1.71	0.36	0	5	23	9	0	nw.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.24	0	3	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	72.5[a]	+4.8	100[a]	16	51[a]	10†	35[b]	0.82	−1.76	0.20	0	7	.....	.....	.....	.....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	70.8[a]	.....	99[a]	17	45[a]	21	46[a]	1.27	.....	0.60	0	4	.....	.....	.....	se.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	3.97	+0.58	2.21	0	5	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	2.37	.....	0.86	0	4	29	2	0	nw.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.38	−0.14	1.17	0	3	11	20	0	se.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	73.6[a]	+4.2	99	17	48[a]	10	40	1.94	−0.87	0.94	0	3	14	15	2	.....	H. S. Wood.
Taylor	Stark	2,493	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Leutz.
Towner	McHenry	1,482	17	72.6	+5.5	103	17	45	5	45	0.25	−2.14	0.25	0	1	25	6	0	se.	B. Bagley.
Turtle Lake	McLean	1,899	5	72.8	.....	102	17	50	15†	48	0.51	.....	0.27	0	5	14	13	4	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. D. Palmer.
Wahpeton	Richland	962	25	70.6	+1.3	101	26	48	12	37	4.43	+0.59	1.50	0	8	.....	.....	.....	nw.	F. E. Smith.
Walhalla	Pembina	966	12	70.6	+3.9	97	16	43	10	44	1.25	−1.83	0.54	0	4	12	16	3	s.	Ivan Lee.
Washburn	McLean	1,734	20	72.0	+2.5	98	25	46	9	42	0.89	−1.36	0.37	0	6	14	17	0	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	69.8	+3.7	103	17	42	27	47	1.80	−0.17	0.69	0	5	25	6	0	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	71.0	+1.6	101	17	51	21	43	1.33	−0.70	0.66	0	5	18	11	2	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	68.6	+3.2	103	17	37	10	50	0.56	−1.59	0.23	0	3	18	13	0	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	71.8	+3.8	103	17	43	10	52	0.78	−1.39	0.78	0	5	20	10	1	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	71.9	+3.2	99	26	50	10	35	5.56	+1.82	2.03	0	8	21	8	2	se.	U. S. Weather Bureau.
Averages	.....	.....	.....	71.2	+3.7	105	17	37	10	55	1.81	−0.80	2.40	0	5	18	10	3	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1919.

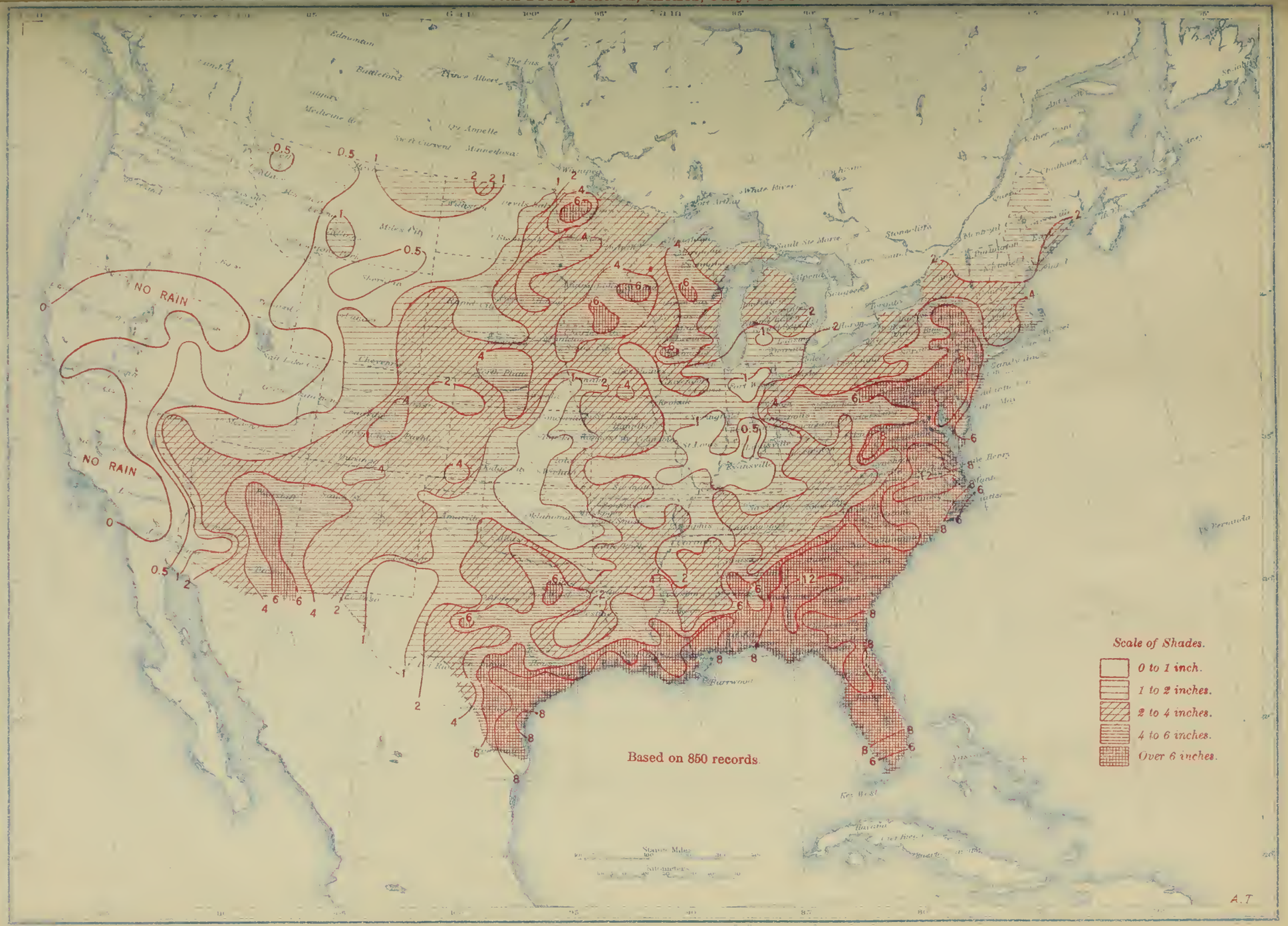
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia |||	Red			1.02											.36	T.				.70											.26	.25	2.59
Arnegard	Missouri							.12																						.04			0.16
Ashley	Missouri		.36	.15										T.					.56										.06		1.90		3.03
Beach	Lit. Missouri																																
Berthold Agency	Missouri	.80						.07					T.	T.	T.			T.	.27		.01				T.			.01	T.				1.16
Bierman	Lit. Missouri				T.														T.		T.					T.		1.10	.04	T.		1.14
Bismarck ***	Missouri													.01	T.				.04		T.				T.				.15	.35	.21		0.76
Bottineau||	Mouse	.07	.04			.04		.02	.07						.01				.08	.08										.30			0.71
Bowbells ||	Mouse	.17	.61					.71								.14														.48			2.11
Bowman	Grand			.06			.03	.04					.08	.08					.17		.17				T.					.07			0.70
Cando	Sheyenne	.75													.01				.40		.02				.04					.08			1.30
Carson	Heart													T.							.03								.07	.20	1.40		1.70
Colgate	Sheyenne	.35	.60											.30	.25				1.30	.15													2.95
Cooperstown	Sheyenne	1.35												.95	.25				.60														3.15
Crosby	Mouse	.25	1.89					.73																					.80				3.67
Devils Lake ***	Sheyenne	.58	.02	T.				.06						.30	.34				.35		.09				.02								1.76
Dickinson||	Heart				.01														.10	T.									.12	.22	.08	T.	0.53
Donnybrook	Mouse	.12	.20		.20			.20						T.	T.				T.								T.						0.72
Dunn Center	Knife	.15		T.				.02													T.								.04				0.21
Dunseith	Mouse	.02						.25						.03	T.				.18											.21			0.69
Eckman	Mouse	.07					.08											.19											.13				0.47
Edgeley	James	.80													.27				.46												2.15		3.68
Ellendale***	James	T.	1.15	.45			T.	T.						T.	.01				1.27	.02						T.	.02	.13	.33	.79			4.17
Energy	Missouri			.03				T.				T.		T.	T.				.21		.17							T.	.01				0.42
Epping	Missouri	.18	1.20																											T.			1.38
Fessenden||	James	T.							.33						T.				.13	.13		.13											0.72
Forman	Sheyenne			1.08										.35					1.70									.12		.22	.75		4.22
Fryburg	Lit. Missouri	.05		.10														T.	T.	T.					T.				.70	T.	T.		0.85
Fullerton	James		1.10	.42										.74					1.21	.32										.26	1.20		5.25
Garrison	Missouri	.79		.02				.04						.06	.04				.17		T.				T.								1.12
Grafton|||	Red		.03	.35			.02	.30	.48					.05	.11					.31										.33			1.98
Grand Forks ***	Red	1.95	.14											.32					.63						T.		T.			1.12			4.16
Grand Rapids	James			1.60									.80						1.30										T.	T.	2.40		6.10
Granville	Mouse	.09						T.						.11	.14				.21		.04						T.			T.			0.59
Hannah	Pembina		T.	.18				1.32											.32														1.82
Hansboro	Red	.10		.18				.12						.12					.45								T.		T.				0.97
Hettinger	Grand							.05					.11						.05		.02										1.57	T.	1.80
Hillsboro	Red		1.96	.22											1.38				.15	.30													4.01
Howard	Missouri	.15	.67		T.	T.		.67					T.	.11				T.											T.				1.60
Jamestown ||	James			.55											.56					.51											.60	.10	2.32
Lakota	Sheyenne			T.				.12							.04				.58														0.74
Lamoine	Missouri							.11							T.				T.		T.												0.11
Langdon||	Pembina								.05						.27					.27		T.					.12						0.71
Larimore ||	Red		.20	.04											2.12					.82										.18			3.36
Linton	Missouri	.15											T.																	.25	1.55		1.95
Lisbon	Sheyenne			.55					T.			.06	.05	.05	.36					2.11									T.	.64	.22		4.04
McClusky	Missouri														.14				.60		.38												1.12
McHenry	James	.25	T.					.15							.05				.55										T.	.02			1.02
McKinney	Mouse	.20	.50					1.20							.15															T.			2.05
McLeod	Sheyenne		.45											.35					2.35										1.02	.25			4.42
Maddock	Sheyenne	.32																	.47		.13												0.92
Mandan||	Missouri														.06	T.			.06	.03		.01				T.			.04	.10	.55		0.85
Manfred	Sheyenne			T.				.74						T.	T.				.37		.12												1.23
Marmarth	Lit. Missouri			.02									T.						.10	T.	.03				T.					.01	.07		0.23
Mayville	Red	.04	.67	.65				.10						.80						.90										T.	.02		3.18
Melville	James		.24					T.											.50											.10			0.84
Milnor	Red																																
Minot |||	Mouse	.05			.03			.01	.12						.02				.15	.04	.01												0.43
Minto	Red	.16	1.85			.20		.16	.25					.15		T.			.46											.07			3.30
Mott	Cannon Ball			T.		.62													.20										1.20	.21			2.23
Napoleon |||	Missouri			.13											.20					.05		.05			.03					.04	1.05	.02	1.57
New England |||	Cannon Ball					.10													.27												.37		0.74
New Salem	Heart														.16				.12										.20	.02		.26	0.76
Orange	Cannon Ball																												.18	.09	.82		1.09
Park River	Red		.15					.09	.05					.08					.36	T.													0.73
Parshall	Missouri	.16		.13			.24																										0.53
Pembina |||	Red		.20	.10					.10					.08	.10					.20										.04			0.82
Pettibone	James							.22											.45											*	.60		1.27
Power	Missouri			.55										.23					2.21						.02						.96		3.97
Powers Lake	Sheyenne	.14	.86					.54							T.												T.			.83			2.37
Selfridge	Missouri													.10															1.17	T.	1.11		2.38
Sherwood	Mouse																																
Steele	Missouri		T.																.70						T.		T.		.94	.30		1.94
Taylor	Heart																																
Towner	Mouse																		.25	T.	T.												0.25
Turtle Lake	Missouri	.03		.02										T.	.02				.27		.17												0.51
Valley City	Sheyenne																																
Wahpeton||	Red			1.50	.05			.08	.30						1.24					.19					.30						.77	4.43
Walhalla	Pembina	T.	T.											.20					.54						.21				.30			1.25
Washburn	Missouri			.01										.04	.37				.16		.19								.12				0.89
Westhope	Mouse	.12	.69					.67											.04						T.					.28			1.80
Williston ***	Missouri	.09	.62				.36	.24					T.	T.											T.					.02			1.33
Willow City	Mouse	T.		T.	T.			T.						T.	.20				.13	T.										.23			0.56
Zap	Knife	.10		T.				T.						.05					.36		.15								.12				0.78
Moorhead, Minn ***	Red	T.	.83	.09				.16						1.52					.21	1.82										.47	.46		5.56

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time o observation. \|\| Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	94	95	77	84	86	83	81	81	82	70	83	84	91	81	87	93	92	80	83	80	76	....	....	84	98	99	85	80	90	77	77	[b]84.6
	Minimum	70	70	66	66	56	60	66	48	54	48	50	48	52	57	52	56	56	68	53	50	51	55	64	54	60	63	60	58	60	64	55	57.7
Ashley	Maximum	91	93	74	77	78	78	82	91	88	79	86	77	89	82	86	89	92	80	81	75	87	90	97	83	95	90	84	81	94	75	74	84.7
	Minimum	70	68	64	55	56	58	59	50	48	47	61	48	61	55	50	57	60	51	45	51	52	62	63	53	56	62	59	56	62	60	55	56.6
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Berthold Agency	Maximum	90	88	78	88	89	96	86	89	86	99	87	95	88	91	96	103	105	80	91	89	95	101	94	93	104	91	90	96	86	91	88	91.7
	Minimum	63	64	54	49	57	65	65	45	43	44	58	49	50	82	47	55	65	54	43	61	46	54	54	62	58	62	55	60	63	62	49	55.4
Bismarck	Maximum	94	94	77	80	83	85	90	92	87	89	81	84	91	83	89	95	100	74	86	82	92	99	87	86	97	90	85	87	82	82	77	87.1
	Minimum	70	68	59	60	59	65	56	54	52	49	63	56	66	57	51	62	68	54	47	59	48	64	66	60	57	67	58	61	65	65	59	59.5
Bottineau	Maximum	86	84	82	86	87	85	76	82	80	88	81	83	89	82	89	97	103	76	84	85	94	97	85	85	100	86	82	88	82	80	81	86.0
	Minimum	65	62	51	45	54	60	62	43	52	42	54	51	61	57	51	52	54	52	42	45	53	54	55	61	63	45	52	60	57	56	53.4
Bowbells §§	Maximum	82	79	78	82	84	90	71	77	77	87	81	81	83	88	89	96	101	77	83	87	94	95	87	85	97	80	83	87	86	79	80	84.7
	Minimum	57	58	47	49	50	68	58	48	48	46	54	52	53	51	50	53	56	51	48	49	45	49	50	58	55	59	48	40	58	54	52	52.1
Carson	Maximum	95	95	80	82	82	90	86	90	92	90	88	86	95	82	90	95	98	85	90	80	90	103	90	90	98	92	75	85	83	80	77	88.2
	Minimum	65	75	55	55	52	63	65	50	54	50	55	54	64	50	50	60	62	50	50	60	50	55	60	58	60	65	50	60	63	60	54	57.2
Crosby	Maximum	81	78	75	78	80	90	76	78	76	84	78	87	84	80	84	88	97	75	79	78	84	92	82	87	91	80	78	89	75	75	78	81.8
	Minimum	59	56	51	52	54	55	54	51	54	54	62	57	60	55	56	57	60	53	52	58	58	53	55	59	62	62	50	52	58	56	58	55.9
Devils Lake	Maximum	86	90	75	81	82	80	76	84	79	79	75	78	83	76	84	92	94	75	81	78	87	93	91	83	95	87	79	82	88	81	77	82.6
	Minimum	62	68	58	56	56	59	55	53	54	48	56	50	63	57	55	62	65	54	53	56	53	66	56	58	59	62	59	52	63	58	53	57.3
Dickinson	Maximum	90	88	80	80	88	99	94	89	88	98	91	94	87	83	90	99	105	92	86	85	93	101	96	93	103	100	82	88	85	80	81	90.6
	Minimum	64	66	54	57	54	65	64	48	45	47	55	51	62	48	47	54	64	54	42	63	50	55	65	65	63	66	55	62	63	63	53	56.9
Donnybrook	Maximum	85	82	79	89	88	85	84	83	80	93	82	101	86	82	90	102	105	79	86	....	....	100	82	89	100	90	85	93	82	84	85	[b]88.2
	Minimum	54	61	52	54	48	60	62	50	55	44	61	52	64	55	49	60	69	55	50	....	....	48	52	51	51	62	47	48	59	57	51	[b]54.5
Dunseith	Maximum	82	86	80	83	83	90	79	81	78	82	83	81	83	79	87	95	101	97	82	82	90	96	81	83	99	92	80	85	84	77	78	85.1
	Minimum	65	63	47	47	50	58	57	41	54	41	55	48	60	57	49	50	63	50	41	56	42	60	54	57	59	61	47	55	57	56	53	53.1
Edgeley	Maximum	90	91	76	80	79	80	82	78	87	80	81	78	87	82	82	88	94	90	80	77	88	97	86	85	94	99	85	81	91	85	75	84.5
	Minimum	71	71	63	49	55	53	62	48	52	48	56	45	58	58	53	58	57	53	44	50	52	60	62	49	55	63	60	54	61	65	54	56.1
Ellendale	Maximum	89	90	74	79	77	78	82	84	84	76	81	76	84	79	82	87	92	72	78	74	83	86	78	84	94	97	80	83	93	73	73	82.0
	Minimum	72	67	61	57	59	56	56	52	53	51	56	49	58	59	54	55	58	54	55	52	54	60	61	56	58	63	61	57	60	61	55	57.4
Fessenden	Maximum	89	94	77	82	81	81	80	85	81	83	78	80	89	82	88	94	99	75	85	80	90	96	81	83	99	92	80	85	84	83	86	85.0
	Minimum	66	68	56	54	50	55	56	49	50	44	59	46	59	54	48	55	64	54	44	54	44	58	54	53	52	64	51	50	57	60	50	54.1
Forman	Maximum	95	96	92	81	84	82	86	87	87	84	84	82	90	84	86	94	97	89	81	79	88	87	84	87	100	100	85	80	100	77	74	87.2
	Minimum	63	64	54	48	50	47	54	40	42	41	50	40	49	50	44	46	53	47	47	41	43	50	51	45	52	57	50	50	52	55	47	49.1
Fullerton	Maximum	91	92	73	81	83	80	85	86	83	82	80	80	88	79	83	88	93	78	80	76	85	87	85	88	93	95	82	79	92	75	73	83.7
	Minimum	72	67	64	63	57	70	62	60	51	62	59	49	58	60	55	54	62	58	67	51	53	53	70	67	74	77	66	68	60	66	59	61.7
Garrison	Maximum	84	82	74	80	82	87	77	86	81	90	85	86	85	80	....	96	101	85	85	83	86	98	89	83	98	89	86	89	85	82	82	[a]85.9
	Minimum	63	65	53	50	56	54	62	49	44	45	62	54	53	57	....	49	65	57	49	52	45	63	58	59	56	68	58	53	60	60	48	[a]55.6
Grafton	Maximum	85	90	76	84	82	83	79	81	78	77	76	79	82	79	86	93	90	85	82	78	87	89	86	84	90	87	84	85	85	80	79	83.3
	Minimum	70	67	60	58	54	54	61	49	54	41	54	44	55	58	48	56	59	58	48	49	44	54	61	52	60	65	49	47	59	60	49	54.8
Grand Forks	Maximum	89	91	74	81	80	81	82	84	79	75	77	78	81	77	84	90	89	72	81	72	87	87	83	83	89	86	80	83	86	79	74	81.8
	Minimum	71	68	63	58	59	58	53	50	57	47	56	48	59	57	52	59	60	56	52	53	50	57	64	56	62	66	55	54	62	61	53	57.3
Granville	Maximum	82	84	77	83	85	83	82	86	80	89	82	77	85	82	80	95	102	75	82	83	92	98	85	84	101	87	85	80	84	84	80	85.0
	Minimum	65	64	67	50	55	60	52	46	53	44	60	50	62	55	60	63	70	52	48	53	52	58	55	57	58	61	57	50	56	57	53	56.2
Hannah	Maximum	92	84	87	89	88	87	84	78	75	80	78	84	82	86	89	94	97	83	74	81	85	87	93	97	83	76	81	84	89	78	80	84.7
	Minimum	60	61	53	48	51	49	46	49	51	50	53	54	52	53	57	56	61	65	45	50	52	51	47	62	56	45	47	45	50	51	48	52.2
Hansboro	Maximum	84	85	78	85	85	83	83	82	79	84	84	83	80	91	88	95	99	90	83	90	92	94	93	87	101	91	79	87	88	80	79	86.5
	Minimum	64	54	42	50	45	62	52	45	44	54	54	46	60	60	48	50	57	50	47	47	45	50	52	50	57	59	47	45	55	50	45	51.2
Hettinger	Maximum	98	95	83	81	80	95	89	93	93	96	97	91	92	85	89	97	102	95	86	83	91	101	101	95	102	90	87	90	93	75	80	91.1
	Minimum	66	70	57	53	54	64	67	46	44	46	61	51	60	48	46	60	64	52	49	62	44	50	60	61	56	69	60	62	64	66	55	57.0
Howard	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	95	84	82	88	93	96	83	92	95	80	82	92	84	78	71	[p]86.3
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	66	60	52	52	47	43	60	60	60	54	60	54	59	54	56	[p]55.8
Jamestown	Maximum	91	92	75	80	81	82	82	90	87	79	80	80	81	77	83	89	96	90	84	81	90	95	86	81	95	89	89	84	74	80	75	84.5
	Minimum	72	69	63	61	57	58	67	49	54	51	61	49	62	61	55	55	54	55	46	51	54	61	65	57	59	64	59	62	66	64	55	58.6
Lakota	Maximum	85	87	79	87	81	80	78	82	79	76	72	78	86	79	84	91	93	88	81	77	87	89	82	83	94	87	85	82	85	80	78	83.1
	Minimum	59	58	57	53	57	53	60	45	49	40	58	43	46	55	47	53	60	56	56	52	43	53	54	57	59	55	53	49	62	60	59	53.6
Lamoine	Maximum	88	90	79	80	88	84	83	84	83	86	78	84	88	84	86	94	99	....	84	80	91	97	87	81	97	88	83	86	84	81	77	[a]85.8
	Minimum	68	70	56	60	68	58	60	45	43	60	59	58	60	52	52	50	60	50	46	50	45	59	56	56	56	66	50	60	60	60	50	56.2
Langdon	Maximum	87	82	85	82	81	82	76	80	76	80	71	83	78	76	86	93	96	81	78	81	86	89	80	87	98	78	75	87	85	71	75	82.1
	Minimum	65	65	54	60	50	62	54	46	52	40	45	44	43	55	48	41	60	56	49	48	45	50	55	55	59	63	45	53	60	57	50	52.5
Larimore	Maximum	86	89	75	84	84	84	82	85	83	79	78	80	81	77	85	91	91	68	83	78	88	89	90	83	89	86	83	83	87	80	77	83.2
	Minimum	71	66	61	57	54	53	65	45	53	46	57	47	59	60	52	61	62	63	46	55	47	58	57	55	60	65	53	50	62	61	52	56.5
Lisbon	Maximum	95	95	79	82	82	83	81	89	93	85	93	88	92	83	82	90	97	78	79	80	92	82	79	84	94	96	82	83	92	78	72	85.8
	Minimum	70	75	65	65	64	56	53	56	55	....	67	....	63	60	56	58	62	70	56	55	56	60	58	52	58	58	63	60	56	67	66	[b]61.0
McHenry	Maximum	82	84	87	85	84	87	83	84	83	86	87	80	81	84	83	87	91	87	90	84	91	86	82	86	84	91	82	85	86	80	86	85.1
	Minimum	70	69	72	64	66	71	69	47	63	63	69	68	65	63	66	68	66	67	69	65	68	63	62	64	72	69	50	69	68	53	53	64.2
McKinney	Maximum	82	80	75	82	84	87	82	79	85	85	80	85	85	80	88	96	101	82	84	82	94	98	85	85	96	84	82	90	82	81	80	84.9
	Minimum	60	50	51	51	50	60	58	49	42	45	42	50	50	50	50	55	64	54	50	50	46	44	52	58	50	62	46	42	58	56	55	51.6
Maddock	Maximum	89	90	86	81	83	86	79	85	84	82	83	86	85	85	86	93	100	73	83	81	89	93	82	83	97	89	87	85	89	86	85	86.0
	Minimum	64	67	54	51	49	55	66	49	50	41	59	53	43	55	48	58	57	52	43	55	46	62	53	53	55	65	49	75	81	76	83	56.7
Marmarth	Maximum	96	85	74	81	95	100	83	90	92	100	88	98	88	85	91	97	104	76	87	83	94	100	99	....	102	96	87	90	84	75	83	[a]89.9
	Minimum	64	66	55	46	52	52	63	45	52	51	73	57	58	52	51	61	57	50	47	63	49	55	63	....	67	66	58	63	66	62	58	[a]57.4
Minot	Maximum	85	84	76	87	87	89	80	86	80	92	80	87	85	83	92	95	103	84	85	85	94	99	86	86	102	88	85	89	81	82	83	87.1
	Minimum	60	59	49	47	46	56	53	45	45	39	57	49	60	60	44	56	67	49	45	50	43	60	46	52	52	57	46	49	59	52	45	51.5
Mott	Maximum	93	88	87	85	84	92	78	90	87	95	86	92	91	88	96	96	100	87	92	89	99	101	99	100	93	90	88	81	81	87	86	90.4
	Minimum	64	64	60	62	64	62	64	48	50	56	55	58	54	51	64	70	68	60	64	65	58	65	56	55	58	57	54	54	57	51	60	59.0
Napoleon	Maximum	96	93	81	92	73	85	84	88	90	88	88	88	95	88	92	98	100	95	88	88	93	100	98	90	100	95	90	88	85	80	82	90.0
	Minimum	70	73	61	54	54	58	68	56	46	44	60	45	63	52	45	62	60	63	42	54	45	65	54	56	67	58	58	62	68	55	48	57.0
New England §§	Maximum	94	85	....	80	....	....	95	90	85	90	88	90	92	82	95	97	101	....	....	75	95	98	89	....	100	....	....	88	79	77	79	[b]88.9
	Minimum	65	64	58	....	54	....	....	51	45	52	54	62	58	52	54	54	64	53	....	....	46	52	61	65	....	68	....	....	64	63	56	[b]57.2
New Salem	Maximum	86	88	90	86	83	86	89	90	82	89	89	88	91	88	87	97	100	84	87	89	91	101	89	88	99	98	96	88	80	80	84	89.1
	Minimum	57	61	64	55	54	61	55	51	51	46	56	50	56	54	52	51	63	48	61	54	51	54	64	52	55	63	55	58	60	52	55	55.5
Orange	Maximum	90	94	83	81	85	84	84	94	92	92	91	88	75	84	89	97	101	94	88	84	90	102	96	91	101	97	86	89	85	76	78	87.8
	Minimum	65	74	56	47	51	63	63	89	41	48	54	52	60	45	78	59	60	51	51	59	45	51	58	60	58	68	59	61	63	59	54	56.3
Park River	Maximum	87	89	75	82	82	84	82	83	82	77	77	79	85	79	86	93	93	91	83	80	88	90	84	85	93	89	81	87	88	85	78	84.4
	Minimum	68	67	60	60	52	55	65	50	55	46	56	49	59	59	52	60	69	55	50	49	48	52	61	57	59	65	53	50	55	62	53	56.5
Pembina §§	Maximum	91	84	86	91	91	82	78	89	82	82	82	82	79	81	91	100	92	78	82	79	83	94	89	....	98	91	81	82	92	84	82	[a]86.0
	Minimum	66	68	52	56	64	66	61	56	63	51	61	56	61	58	56	63	66	62	51	52	52	58	61	61	....	64	59	52	62	59	52	[a]59.0
Steele	Maximum	96	97	96	82	82	89	90	90	86	83	82	83	92	83	89	98	99	92	86	85	92	95	95	86	98	88	86	85	87	83	83	89.0
	Minimum	70	74	72	60	68	68	56	60	50	48	52	56	60	58	60	60	61	56	55	54	54	56	58	54	60	52	....	....	54	50	52	[b]58.7
Towner	Maximum	87	85	85	86	87	83	87	86	83	85	84	83	86	90	97	103	101	84	86	90	97	103	98	88	102	95	85	86	85	83	86	88.7
	Minimum	64	63	62	68	45	63	62	47	51	48	60	51	63	56	49	54	68	56	48	59	58	59	61	60	60	55	47	50	60	56	51	.56.6
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Wahpeton	Maximum	90	90	71	81	82	80	75	85	80	75	79	77	85	77	80	85	92	75	77	78	87	88	80	85	96	101	84	77	90	72	77	82.3
	Minimum	68	70	67	57	55	56	67	53	55	49	47	48	58	59	54	57	59	66	59	50	50	60	61	52	66	67	60	60	62	67	57	58.9
Westhope	Maximum	88	82	78	83	85	86	74	78	77	86	84	86	80	84	88	97	103	79	83	83	93	98	83	86	98	84	83	90	80	80	82	85.2
	Minimum	69	61	52	51	51	58	59	51	56	56	48	58	52	54	58	52	62	63	45	52	50	58	60	56	62	55	61	54	53	51	54	54.4
Williston	Maximum	88	80	71	80	85	92	69	81	78	92	78	92	81	80	89	97	101	76	84	80	94	96	86	93	99	79	80	90	72	77	81	84.5
	Minimum	64	59	56	54	63	58	55	52	52	54	61	58	58	54	54	58	61	51	52	58	51	59	54	64	66	55	54	62	61	57	63	57.5
Willow City	Maximum	85	86	80	84	86	85	81	84	77	85	79	84	84	76	87	97	103	75	82	83	92	96	84	87	100	89	83	88	84	79	80	85.3
	Minimum	65	63	49	45	47	58	60	43	45	37	54	46	59	57	47	47	57	52	45	51	43	51	50	53	58	64	45	50	59	59	50	51.9
Zap	Maximum	87	83	75	83	85	91	84	89	85	95	83	91	86	85	89	99	103	81	85	82	92	100	89	90	101	93	85	90	83	83	83	88.1
	Minimum	62	67	54	51	51	65	62	48	44	43	56	52	60	48	46	56	75	48	45	56	47	54	60	58	60	60	56	60	62	61	54	55.5
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


NO RAIN
NO RAIN
Based on 850 records.
Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
A.T

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

AUGUST, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 27, 1919.

Departure of the Mean Temperature from the Normal, August, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., AUGUST, 1919. No. 8.

GENERAL SUMMARY.

Moderately warm weather continued throughout the month; there were no periods of excessive heat, and few cool days. It was the third consecutive month with temperature above, and rainfall below normal. The monthly amounts of rainfall were greatest in the northeastern portion of the State and in the Red River Valley, ranging generally between two and four inches over these sections, but over the greater portion of the remainder of the State the amounts were less than one inch. On account of the warm season spring wheat and oats were generally mature at the beginning of the month, and harvest was under way. Some threshing was done during the month, but the yields were disappointing on account of the damage by drought, black rust, blight and grasshoppers. Corn made excellent progress during the month, and was mostly advanced beyond serious damage from frost at the end of the month. Pastures and ranges were generally in poor condition on account of deficient rainfall.

TEMPERATURE.

The mean temperature for the State was 67.9°, or 2.5° above the normal, and 1.5° higher than the mean for August, 1918. The highest mean reported was 71.1° at McHenry, Foster County; the lowest was 63.6° at Langdon, Cavalier County. The highest temperature reported was 101° at Turtle Lake, McLean County, and at Walhalla, Pembina County, on the19th; the lowest was 30° at Hannah, Cavalier County, on the 27th. The greatest monthly range was 68° at Hannah, Cavalier County, and at Walhalla, Pembina County; the least was 49° at McHenry, Foster County, and at Lisbon, Ransom County. The greatest daily range was 59° at Orange, Adams County, on the 22d. The temperature distribution was uniform, both geographically and throughout the month. The mean temperature was above normal at all stations for which normals have been computed.

PRECIPITATION.

The average precipitation for the State was 1.62 inches, or 0.66 inch less than the normal, and 1.73 inches less than the average for August, 1918. The greatest monthly amount reported was 5.65 inches at Hillsboro, Traill County; the least was 0.04 inch at Bierman, Slope County. The greatest amount recorded in any twenty-four consecutive hours was 4.08 inches at Dunseith, Rolette County, on the 2d. The average number of days with 0.01 inch or more of precipitation was 5. Showers were frequent during the first half of the month, but the latter half was generally rainless, excepting well distributed showers on the 28th and 29th. —E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.96	30.33	24	29.61	5	57	7,277	9.8	47	nw.	4
Devils Lake	29.91.	30.28	24	29.56	19	44	6,365	8.6	34	nw.	16
Ellendale	29.95	30.31	24	29.62	14	56	9,083	12.2	52	n.	12
Grand Forks	29.91	30.25	8	29.63	19	90	.....	.....	30	nw.	16
Williston	29.90	30.32	24	29.58	21	48	6,487	8.7	40	w.	5
Moorhead, Minn	29.95	30.27	24	29.57	19	57	5,641	7.6	34	nw.	12
Averages or extremes.	29.93	30.33	24	29.56	19	.....	.....	9.4	52	n.	12

* For any five-minute period.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p.c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	346.1	439.4	79	+12	74	40	37	25	22
Devils Lake	322.2	442.0	73	+10	80	44	50	19	19
Ellendale	356.1	437.4	81	.....	83	.....	54	37	17
Grand Forks	.....	.....	.....	.....	89	.....	63	.....	.....
Williston	365.0	442.9	83	+15	72	38	35	19	31
Moorhead, Minn	.....	.....	.....	.....	89	.....	59	.....	.....
Averages or extremes	347.4	440.4	79	+12	81	41	50	19	19*

* And other dates.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	67.3	+1.9	105	24	2.29	+0.01	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	0.38	−1.90	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.

Climatological Data for August, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	68.1	+1.8	95	19	43	25†	46	2.57	−0.14	1.10	0	7	17	12	2	n.	E. T. Carley.
Arnegard	McKenzie	.....	1	68.8	.....	94	31	43	30	39	2.61	.....	1.90	0	5	15	16	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	67.4	+1.5	92	5	42	25	44	1.93	−1.29	0.47	0	3	29	3	0	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	69.2	+4.2	97	5	35	30	48	0.30	−1.75	0.15	0	3	19	10	2	s.	H. F. Yunker.
Berthold Agency††	McLean	2,082	25	70.2[a]	+2.5	99[a]	3	38[a]	30	51[a]	1.52	−0.26	1.15	0	8	23	6	2	nw.	C. L. Hall.
Bierman	Slope	.....	3	70.3	.....	94	31	45	30	38	0.04	.....	0.02	0	2	10	3	18	se.	E. F. Bierman.
Bismarck	Burleigh	1,674	45	70.6	+2.5	98	19	45	25	45	1.46	−0.52	1.15	0	6	19	10	2	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	66.4	+2.8	98	19	40	24	47	3.15	+1.14	2.00	0	9	.....	.....	.....	se.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	66.0	.....	94	18†	36	31	51	0.61	.....	0.25	0	4	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	68.4	.....	96	11	35	30	51	0.24	.....	0.15	0	4	21	6	4	se.	M. W. Madsen.
Cando	Towner	1,488	18	67.9[b]	+4.0	98	19	38[c]	24†	50[c]	2.33	+0.06	1.00	0	9	22	3	6	se.	J. M. Russell.
Carson	Grant	2,500	7	68.6	.....	94	2	40	30	40	1.26	.....	0.52	0	3	20	11	0	se.	J. W. Evens.
Colgate	Steele	1,177	5	66.6	.....	95	21	40	25†	44	3.35	.....	1.05	0	5	19	11	1	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	3.05	+0.68	1.50	0	6	18	12	1	nw.	S. Friswold.
Crosby	Divide	1,954	12	66.4	+2.7	91	4	40	24†	38	1.37	−1.00	0.50	0	4	19	8	4	w.	John Jensen.
Devils Lake	Ramsey	1,478	15	67.0	+1.9	96	19	42	25	36	2.28	−0.48	0.99	0	10	15	12	4	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	69.8	+3.5	95	19	36	30	46	0.59	−1.36	0.28	0	6	20	8	3	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	69.0[d]	+5.7	97[c]	19	38[d]	24	46[d]	0.37	−1.79	0.15	0	3	.....	.....	.....	.....	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	68.4	.....	96	19	37	30	52	0.29	.....	0.20	0	2	22	9	0	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	66.0	+2.4	94	19	40	24†	45	5.13	+2.84	4.08	0	8	16	13	2	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	67.4[a]	+4.1	99[a]	19	36[a]	24	48[a]	1.54	−0.70	0.95	0	3	24	6	1	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	68.3	+1.9	92	5†	40	25†	41	0.46	−1.85	0.33	0	3	4	23	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	67.4	.....	92	5	42	25	40	0.68	−1.84	0.30	0	3	13	10	8	nw.	U. S. Weather Bureau.
Energy ††	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.45	0	6	6	24	1	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	0.40	−2.00	0.40	0	1	19	11	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	66.8	.....	97	19	37	25	47	2.02	.....	1.02	0	8	24	7	0	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. P. Denk.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.57	.....	0.31	0	3	16	10	5	.....	Verne King.
Fullerton	Dickey	1,439	21	68.4	+2.1	90	5†	41	31	39	0.94	−1.79	0.56	0	3	21	10	0	nw.	F. O. Alin.
Garrison	McLean	1,901	24	68.1	+2.4	99	19	37	30	50	0.48	−1.54	0.32	0	4	16	14	1	nw.	G. L. Robinson.
Grafton	Walsh	827	27	66.4	+1.9	100	19	33	28	44	2.71	+0.09	1.08	0	6	25	1	5	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	27	66.0	+1.1	95	19	38	27	35	2.98	+0.52	0.96	0	13	16	7	8	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	68.4	.....	93	5†	40	26	44	1.76	.....	1.40	0	3	.....	.....	.....	nw.	G. E. Pooley.
Granville	McHenry	1,504	12	67.8	+3.9	97[a]	19	42	24†	47[a]	1.34	−0.85	0.91	0	5	11	20	0	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	65.0	+2.5	98	19	30	27	41	2.62	+0.76	0.71	0	8	19	10	1	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	65.2[b]	+2.4	100[b]	19	34[b]	25†	44[b]	2.77	+0.59	1.10	0	5	21	9	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	70.4	+3.4	98	11	38	30	45	0.18	−1.23	0.18	0	1	28	3	0	se.	U. J. Downey.
Hillsboro	Traill	901	13	67.4	+0.5	93	19	42	28†	37	5.65	+2.80	2.65	0	9	15	15	1	nw.	F. E. Mayall.
Howard ††	Williams	2,275	12	67.0	+3.5	94	31	37	30	42	2.10	+0.56	0.86	0	6	10	15	6	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	68.9	+2.7	94	5	40	31	42	1.36	−1.22	0.61	0	5	18	8	5	c.	S. Calvelage.
Lakota	Nelson	1,579	18	64.4[d]	+1.2	96	19	36	24†	48	1.43	−0.98	0.43	0	6	18	11	2	nw.	C. R. Pettes.
Lamoine	Kidder	1,936	11	67.3[a]	+3.4	93[a]	22	40[a]	28	41[b]	1.12	−0.82	0.48	0	3	21	7	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	63.6	+1.9	96	19	34	27	41	4.38	+1.72	2.23	0	5	22	2	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	67.0	+2.7	97	19	42	25†	42	3.19	+0.54	1.30	0	8	.....	.....	.....	n.	Reuben Gray.
Linton	Emmons	1,711	1	68.6	.....	98	5	38	29	52	1.00	.....	0.40	0	4	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	67.4	+0.9	96	18	42	26	45	2.78	+0.53	2.25	0	3	.....	.....	.....	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.50	0	3	.....	.....	.....	.....	Edw. Tapley.
McHenry	Foster	1,509	9	71.1	.....	94	19	45	28	36	3.70	.....	1.75	0	5	24	4	3	se.	P. E. Trudeau.
McKinney ††	Renville	1,640	25	66.6	+3.1	95	18	40	25†	44	1.55	−0.12	0.80	0	3	14	14	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	66.5	.....	91	19†	33	28	47	1.54	.....	0.70	0	6	27	2	2	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	66.2	.....	97	19†	34	21	55	2.06	.....	1.62	0	3	11	17	3	nw.	A. T. Felland.
Mandan	Morton	1,644	5	71.0	.....	100	3	46	25	46	1.22	.....	0.50	0	7	11	8	12	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	67.9	+3.6	96	19	39	25	42	1.26	−1.00	0.50	0	6	20	9	2	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	69.8	+4.2	96	31	39	30	46	0.78	−1.00	0.41	0	6	16	14	1	nw.	S. P. Grane.
Mayville	Traill	975	23	68.0	+1.7	97	19	40	26†	41	3.70	+0.94	1.70	0	6	21	2	8	nw.	W. C. Gould.
Melville	Foster	1,590	21	68.4	+2.0	94	22	42	25	36	1.70	−0.29	0.75	0	3	.....	.....	.....	nw.	J. P. Kidder.
Milnor	Sargent	1,097	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hj. Edman.
Minot	Ward	1,557	23	66.0	+0.9	98	18	33	25	54	0.99	−1.26	0.53	0	6	14	16	1	w.	W. I. Faris.
Minto	Walsh	820	26	67.4	+2.8	100	19	34	27	43	2.43	−0.04	0.82	0	8	14	4	13	se.	C. M. Evans.
Mott	Hettinger	2,424	12	69.0	+3.1	98	5	38	30	51	2.05	+0.44	1.50	0	3	16	11	4	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	68.9	+2.9	96	5	40	26†	45	0.95	−1.47	0.63	0	6	14	13	4	se.	C. J. Hoof.
New England	Hettinger	2,400	25	68.0	+1.3	92	2†	38	30	44	0.78	−1.04	0.62	0	2	.....	.....	.....	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	69.4	+3.0	96	5	42	30	45	2.48	+0.78	0.93	0	6	19	12	0	se.	J. Christiansen.
Orange ††	Adams	2,586	10	68.6	+2.0	98	5†	34	30	59	0.54	−0.90	0.40	0	4	7	19	5	nw.	T. F. Young.
Park River	Walsh	998	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	0.52	.....	0.40	0	2	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	69.4	+5.3	99	19	34	27	40	2.24	−0.09	0.74	0	8	.....	.....	.....	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	67.8	.....	96	19	42	31	43	0.83	.....	0.67	0	4	11	15	5	se.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	1.41	−1.16	0.77	0	5	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	0.58	.....	0.16	0	6	15	12	4	w.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.92	−1.05	0.43	0	5	16	15	0	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	2.94	.....	0.98	0	7	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	69.4	+2.6	97	19	44	30†	42	0.76	−1.50	0.38	0	4	27	3	1	.....	H. S. Wood.
Taylor	Stark	2,493	3	67.4	.....	89	13†	39	30	40	0.42	.....	0.18	0	3	15	13	3	se.	H. Leutz.
Towner	McHenry	1,482	17	68.3	+3.9	100	19†	37	24	52	1.71	−0.34	0.87	0	4	19	8	4	se.	B. Bagley.
Turtle Lake	McLean	1,899	5	70.8[a]	.....	101[a]	19	45[a]	25	49[a]	0.59	.....	0.26	0	5	.....	.....	.....	w.	A. T. Anderson.
Valley City	Barnes	1,245	1	67.8	+2.2	90	13	42	24	37	0.48	−1.99	0.20	0	4	18	7	6	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	67.4	+0.5	91	19	38	31	39	2.30	−0.74	1.40	0	5	.....	.....	.....	nw.	G. C. Morehart.
Walhalla	Pembina	966	12	68.2	+3.8	101	19	33	28	43	1.65	−0.83	0.73	0	4	19	10	2	s.	Ivan Lee.
Washburn	McLean	1,734	20	69.4	+2.0	97	19	40	30	42	0.40	−0.86	0.19	0	5	17	11	3	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	67.4	+3.3	99	19	38	23	47	1.43	−0.76	0.80	0	4	22	6	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	69.0	+1.1	94	31	41	30	40	0.65	−0.66	0.29	0	5	15	16	0	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	65.7	+2.2	99	19	35	24	47	1.03	−1.03	0.42	0	5	16	14	1	nw	M. A. Ostby.
Zap	Mercer	1,800	6	69.2	+2.9	100	19	38	30	47	1.11	−1.02	0.91	0	6	13	17	1	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	68.2	+2.3	93	14	42	31	36	2.83	−0.27	0.67	0	8	23	6	2	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	67.9	+2.5	101	19	30	27	59	1.62	−0.66	4.08	0	5	18	10	3	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1919.

Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red			.70			.27				.10		.10	1.10	T.		.10													.30			2.67
Arnegard	Missouri			.30	1.90					.30	.06																		T.	.05			2.61
Ashley	Missouri				T.						.40		.16			T.													.47				1.03
Beach	Lit. Missouri									.15			.10																.05				0.30
Berthold Agency	Missouri		.03	.02	1.15	.11				.08			.04																.08	.01			1.52
Berman	Lit. Missouri												.02															.02					0.04
Bismarck ***	Missouri		T.		1.15	.09				.01	.08		.06			.07												T.		T.			1.46
Bottineau ‖	Mouse			2.00	.16	.02	.11				.48				T.	.04	.01													.20	.13		3.15
Bowbells ‖	Mouse				.08		.15									.13														.25			0.61
Bowman	Grand			T.	.06					.02			.15																.01				0.24
Cando	Sheyenne		.03	.40							.61		.04	.02		.01													1.00	.21	.01		2.33
Carson	Heart					.52					.47		.27																				1.26
Colgate	Sheyenne			.90			1.05					T.	.15				.20												1.05				3.35
Cooperstown	Sheyenne		1.50			.25				.20		.10	.20																.80				3.05
Crosby	Mouse			.25		.56				.50																			.06				1.37
Devils Lake ***	Sheyenne		.98	.01	.02	.12					.43	.02	.05		.02	.05	T.												.58	T.			2.28
Dickinson ‖	Heart				.28	.02					.08		.02	.17																	.02			0.59
Donnybrook	Mouse			.15							.10					.12													T.				0.37
Dunn Center	Knife				.09				T.																				.20				0.29
Dunseith	Mouse		4.08		.05		.08				.30					.03	.13												.32	.14			5.13
Eckman	Mouse			.07							.95					T.													.52				1.54
Edgeley	James										.33		.02																.11				0.46
Ellendale ***	James		T.	T.		T.	T.			T.	.30		.09			T.													.29	T.			0.68
Energy	Missouri		.12		.45	.25				.26	T.	.02			T.	T.													.25	T.			1.35
Epping	Missouri										.40																						0.40
Fessenden ‖	James			1.02	.03	.10	.18				.50	T.	.02	.07			T.													.10	T.		2.02
Forman	Sheyenne																																
Fryburg	Lit. Missouri		T.	T.	.22				T.	.04		T.	.31			T.																	0.57
Fullerton	James			.56							.24					T.													.14				0.94
Garrison	Missouri		T.	T.	.32						.03		.02			T.													.11				0.48
Grafton ‖	Red			1.08							.28		.08	.07				.15												1.05			2.71
Grand Forks ***	Red		.17	.18		.50	.46				.15	.01	.27		.01	.04	.17			.03	T.								.42	.57			2.98
Grand Rapids	James						T.			.18			1.40			T.													.18	T.			1.76
Granville	Mouse		.15		.07		.08				.94				T.	.10																	1.34
Hannah	Pembina		.23			.56	.71				.24	.20				.10													.52	.06			2.62
Hansboro	Red		.63								.50					.45													1.10	.09			2.77
Hettinger	Grand					.18							T.																				0.18
Hillsboro	Red			1.63			2.65				.16		.14			.20	.08				.04									.70	.05		5.65
Howard	Missouri		.05	.65	.20	.86				.33						T.													.01	T.			2.10
Jamestown ‖	James			.25			.10				.61			.35			.05																	1.36
Lakota	Sheyenne		T.	.43								T.	.19			.28	.06			T.									.39	.08			1.43
Lamoine	Missouri	.25			.39						.48					T.													T.	T.			1.12
Langdon ‖	Pembina			2.23							.23	.25					.57													1.10			4.38
Larimore ‖	Red			.35			1.30						.23	.06			.13	.02												.80	.30		3.19
Linton	Missouri					.40				T.	.35	.15			.10																		1.00
Lisbon	Sheyenne				T.	T.	T.	T.			.43	T.		2.25			.10													T.			2.78
McClusky	Missouri				.14						.50	.08																					0.72
McHenry	James			T.		1.75					.35		.20			.15		T.											1.25				3.70
McKinney	Mouse			.25								.80				T.													.50				1.55
McLeod	Sheyenne	.70									.08		.40				.06												.20	.10			1.54
Maddock	Sheyenne			.34	.10	T.																							1.62	T.			2.06
Mandan ‖	Missouri				.50	.46	.03				.08		.09	.05			.01																	1.22
Manfred	Sheyenne			.50	.13	.10					.40		.04			T.														.09				1.26
Marmarth	Lit. Missouri			.07	.01					.41	.02	T.	.26															.01	T.				0.78
Mayville	Red			.83			1.70				.06					.37	.04													.70			3.70
Melville	James		.75							.55				.40	T.	T.													T.				1.70
Milnor	Red																																
Minot ‖	Mouse				.53	.02	.07				.20						.02													.15			0.99
Minto	Red			.55			.09				.44		.15			.24	.11												.82	.03			2.43
Mott	Cannon Ball				1.50						.30		.25																				2.05
Napoleon ‖	Missouri					.06	.03				.63		T.	.14			.03														.06			0.95
New England ‖	Cannon Ball					.62								.16																				0.78
New Salem	Heart		.11	.76	.54	.93					.06		.08																T.	T.			2.48
Orange	Cannon Ball				.05		.04		.05		.40																						0.54
Park River	Red																																
Parshall	Missouri			.12	.40																												0.52
Pembina ‖	Red			.20		.08	.74				.22					.20	.10	.28												.42				2.24
Pettibone	James			.04							.67		.08			.04																		0.83
Power	Missouri			.77									.38			.04	.02												.20				1.41
Powers Lake	Sheyenne			.08	.12	.03				.14						.05												.16					0.58
Selfridge	Missouri				.22					.07	.43		.15																.05				0.92
Sherwood	Mouse		.03	.09		.65				.98						.06													1.12	.01			2.94
Steele	Missouri					.38	.08			.28						T.	T.	.02		T.														0.76
Taylor	Heart		.08			.16							.18			T.														T.				0.42
Towner	Mouse		.42	T.	T.		T.				.40		.02																.87	T.			1.71
Turtle Lake	Missouri				.10	.01					.25					.06													.16	T.			0.59
Valley City	Sheyenne		T.				.03			.20		.20				T.	.05												T.	T.			0.48
Wahpeton ‖	Red			1.40								.10		.35				.20												.25			2.30
Walhalla	Pembina			.18			.73				.14																		.60				1.65
Washburn	Missouri		.02		.19	.11				T.	.05		.03																					0.40
Westhope	Mouse		.29	.05							.29																		.80				1.43
Williston ***	Missouri		T.	.03	.05	.29				.25					T.														.03	T.			0.65
Willow City	Mouse				.02		.23				.42				T.	T.													.23	.13			1.03
Zap	Knife		.11	.91							.06		.01																.01	.01			1.11
Moorhead, Minn ***	Red		T.	.58			.67				.04	T.	.56		.03	.21	.10												.64				2.83

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	83	85	80	84	92	83	78	81	85	77	91	82	86	90	79	79	84	91	95	84	88	94	78	80	79	78	76	80	76	78	80	83.1
	Minimum	49	50	60	68	64	60	46	52	56	56	56	58	57	69	67	56	56	52	52	54	49	48	53	44	43	45	44	44	48	46	43	53.1
Ashley	Maximum	75	82	87	86	92	79	81	78	78	81	89	78	88	82	78	80	81	90	90	77	85	91	75	78	78	80	75	78	72	73	80	81.2
	Minimum	47	56	67	57	57	61	54	49	57	63	55	62	55	59	53	53	48	46	63	48	52	59	56	49	42	47	49	50	55	45	43	53.5
Beach	Maximum	83	91	94	91	97	89	92	94	90	87	89	93	93	83	80	89	86	94	87	90	82	84	95	81	84	83	80	79	79	74	96	87.1
	Minimum	57	55	53	51	49	44	49	52	57	53	56	49	52	57	55	52	59	50	52	54	50	51	51	47	51	55	59	43	42	35	52	51.4
Berthold Agency	Maximum	90	97	99	93	94	80	93	85	89	89	97	88	96	80	82	85	93	96	98	81	93	92	78	84	83	88	78	77	77	..	92	[a]88.2
	Minimum	49	66	54	61	57	57	50	56	59	60	50	60	45	53	58	52	43	49	54	54	45	53	57	45	44	48	53	55	45	38	..	[a]52.1
Bismarck	Maximum	80	87	91	91	93	79	85	83	83	88	93	84	90	80	81	83	87	95	95	79	89	92	75	79	78	83	78	77	77	78	86	84.5
	Minimum	55	64	64	58	60	63	56	57	61	65	59	60	52	60	61	58	52	50	67	58	54	60	54	53	45	53	54	54	54	46	52	56.7
Bottineau	Maximum	85	81	85	88	84	78	77	78	85	84	84	84	85	76	78	82	86	95	98	78	87	88	87	79	80	76	73	61	71	74	85	81.4
	Minimum	53	55	59	60	61	52	54	52	55	58	52	54	52	55	56	53	54	54	51	52	42	44	48	40	48	49	48	49	44	43	44	51.3
Bowbells §§	Maximum	88	86	89	87	85	75	78	83	84	87	86	85	89	74	81	82	88	94	94	76	91	84	60	80	76	80	72	67	72	75	89	81.8
	Minimum	53	57	58	56	56	49	69	51	54	55	59	53	48	55	53	48	46	43	58	49	45	55	45	37	49	43	44	48	44	37	36	50.1
Carson	Maximum	90	94	93	92	93	80	86	84	85	85	90	80	88	78	75	78	88	85	90	75	90	80	75	84	75	82	72	75	76	78	85	83.3
	Minimum	50	62	62	60	60	60	52	54	60	60	56	60	55	58	55	54	48	55	65	50	50	48	48	48	50	50	52	55	46	40	50	51.0
Crosby	Maximum	81	83	85	91	72	75	76	80	85	78	80	81	84	72	78	85	84	86	90	75	85	78	70	75	77	78	73	70	71	74	89	79.2
	Minimum	57	64	61	62	57	56	51	58	62	58	52	56	55	56	56	57	52	48	52	53	49	55	50	40	53	51	50	53	50	40	49	53.6
Devils Lake	Maximum	82	81	81	84	87	79	72	78	84	85	88	80	85	81	73	78	82	89	96	78	83	90	75	76	75	75	73	64	71	69	80	79.8
	Minimum	51	61	61	62	63	57	55	51	52	62	59	63	56	61	58	56	52	53	63	55	48	61	49	43	42	46	45	49	50	47	49	54.2
Dickinson	Maximum	84	94	93	91	89	86	88	89	87	87	92	87	83	89	80	81	88	92	95	89	94	87	84	79	76	80	78	78	77	81	94	86.4
	Minimum	52	67	58	63	61	59	46	55	62	57	49	62	52	56	58	51	42	48	57	53	44	60	52	41	51	51	53	54	47	36	53	53.2
Donnybrook	Maximum	88	92	94	..	87	79	85	87	90	86	90	..	92	84	82	85	90	96	97	80	93	88	75	81	82	85	77	72	75	..	90	[c]85.8
	Minimum	54	62	54	..	57	58	50	48	53	63	47	..	53	57	57	56	46	50	66	55	53	63	46	38	41	41	44	48	48	..	..	[b]52.1
Dunseith	Maximum	82	86	81	85	84	87	72	74	82	82	82	81	81	82	74	79	80	90	94	93	82	84	86	74	75	75	71	68	68	71	82	80.2
	Minimum	46	57	60	62	58	51	54	49	56	62	50	55	63	57	55	56	48	54	49	53	46	56	48	40	40	50	44	48	46	47	48	51.9
Edgeley	Maximum	77	82	85	85	92	80	91	80	82	79	90	89	87	86	81	83	83	89	92	90	85	92	86	79	78	80	79	79	79	76	81	83.8
	Minimum	48	52	66	59	58	56	61	48	53	62	59	61	58	57	52	56	52	48	59	59	54	54	54	46	40	40	42	45	53	45	41	52.8
Ellendale	Maximum	75	82	84	84	92	81	80	78	81	77	89	81	87	85	79	81	82	87	90	79	84	91	73	77	77	78	74	80	76	71	79	81.1
	Minimum	49	58	65	60	58	62	57	50	59	62	56	60	58	54	54	58	55	51	54	55	52	51	56	50	42	44	46	50	52	47	44	53.8
Fessenden	Maximum	84	83	82	91	90	80	79	78	85	88	91	84	88	80	78	83	87	93	97	90	89	93	81	81	80	80	74	76	77	75	85	83.8
	Minimum	44	52	58	59	51	56	51	48	50	59	56	61	50	60	54	52	47	46	57	53	44	57	47	38	37	40	43	44	47	41	39	49.7
Forman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Fullerton	Maximum	76	83	83	87	90	80	78	78	83	79	88	86	85	82	79	81	80	87	88	78	85	90	79	76	77	78	74	81	76	71	80	81.2
	Minimum	52	56	66	64	65	62	60	58	57	63	57	57	61	58	54	56	54	50	54	59	49	61	57	57	48	43	54	49	52	45	41	55.5
Garrison	Maximum	82	85	92	89	90	79	82	85	85	87	92	85	92	79	82	83	86	98	99	84	89	89	80	78	82	83	75	74	75	77	87	84.6
	Minimum	50	56	52	52	56	55	49	60	55	61	53	63	50	60	59	52	46	46	57	51	49	58	48	42	45	46	48	53	48	37	44	51.6
Grafton	Maximum	83	82	79	82	90	81	79	79	82	79	80	79	84	87	75	76	85	90	100	94	88	88	87	79	78	75	73	69	70	73	78	81.4
	Minimum	46	52	60	59	62	57	57	49	47	60	60	57	52	56	54	58	56	48	56	60	50	54	53	40	41	40	35	33	48	48	44	51.4
Grand Forks	Maximum	80	83	74	82	90	80	71	76	80	76	84	75	84	88	72	73	81	86	95	78	82	88	77	76	75	73	69	70	69	70	75	78.5
	Minimum	52	56	64	64	61	59	59	57	54	62	59	62	55	58	54	59	56	52	60	56	49	55	52	44	43	44	38	39	49	47	44	53.6
Granville	Maximum	85	89	85	89	87	79	77	70	89	86	89	85	90	78	79	77	85	96	97	79	..	78	77	80	82	77	73	68	74	75	87	[a]82.1
	Minimum	52	60	60	62	60	54	53	50	58	61	55	60	55	60	58	58	50	49	54	56	48	60	50	42	52	50	45	51	47	42	44	53.4
Hannah	Maximum	83	84	89	90	88	84	78	80	79	81	80	86	87	84	76	80	84	88	98	77	88	90	80	78	78	75	77	66	62	68	72	81.0
	Minimum	50	49	54	58	56	56	43	44	45	52	57	54	56	55	53	46	51	54	57	56	47	50	49	45	46	42	30	40	41	39	40	48.9
Hansboro	Maximum	85	86	81	87	88	79	72	77	87	85	87	85	87	82	74	..	..	92	100	85	86	85	77	78	76	75	73	73	70	76	80	[b]81.7
	Minimum	47	57	57	57	56	53	52	41	46	60	51	54	54	53	53	..	..	48	52	53	51	55	49	38	34	37	34	34	43	54	42	[b]48.8
Hettinger	Maximum	81	93	93	95	93	83	88	85	73	73	98	79	93	88	80	81	88	97	95	89	89	91	92	83	79	82	79	79	78	78	93	86.1
	Minimum	53	61	62	61	58	60	47	54	59	56	54	62	56	55	52	46	43	53	65	62	46	58	53	49	53	54	58	57	54	38	55	54.6
Howard	Maximum	86	90	85	86	77	75	80	82	86	86	83	88	85	85	78	76	83	86	88	75	84	75	73	77	83	78	70	78	79	94	81.4
	Minimum	58	60	60	62	61	52	47	53	52	52	56	50	53	55	54	47	50	52	62	47	48	53	47	45	57	50	54	55	44	37	57	52.6
Jamestown	Maximum	73	82	82	87	94	91	79	78	85	80	90	85	88	85	77	81	83	91	94	86	85	91	86	78	79	82	71	76	70	80	82	83.0
	Minimum	50	55	64	61	62	64	56	50	56	63	58	67	58	63	58	57	54	51	58	59	51	57	55	41	44	45	47	48	54	48	40	54.8
Lakota	Maximum	83	82	..	83	..	..	82	77	65	81	88	78	84	83	74	78	81	83	76	84	..	89	76	78	76	75	73	67	74	71	78	[d]79.3
	Minimum	43	55	..	65	..	..	55	47	42	45	58	59	55	56	58	54	56	57	55	55	..	41	41	36	36	40	41	44	59	45	41	[d]49.6
Lamoine	Maximum	81	84	84	90	92	75	79	78	86	86	92	84	90	79	78	82	80	92	83	..	88	93	70	78	78	82	72	78	78	72	85	[a]82.3
	Minimum	47	58	60	60	57	48	50	50	56	62	62	62	51	63	56	51	46	55	..	52	60	58	52	44	46	44	45	40	47	41	41	[a]52.3
Langdon	Maximum	85	86	79	83	88	76	68	75	81	81	85	81	82	79	67	73	79	89	96	74	79	78	73	73	78	69	68	60	66	77	68	77.1
	Minimum	49	57	60	60	60	54	54	46	50	54	53	55	51	51	51	53	50	61	55	54	46	49	44	39	41	43	34	43	43	47	45	50.1
Larimore	Maximum	83	84	77	84	91	84	70	78	84	79	86	73	87	87	72	77	83	90	97	83	85	89	80	80	79	76	73	69	74	76	78	80.9
	Minimum	49	53	61	60	61	58	57	51	51	60	57	62	56	59	60	57	55	50	55	58	52	55	53	45	42	45	42	45	52	44	45	53.2
Lisbon	Maximum	81	84	80	88	94	83	80	79	86	78	93	82	85	82	78	81	84	76	94	82	84	92	76	78	78	78	74	83	80	78	84	83.1
	Minimum	58	52	66	62	58	62	52	50	53	54	55	57	53	55	53	57	52	51	53	61	47	48	48	44	43	42	42	42	45	45	42	51.7
McHenry	Maximum	84	80	82	83	87	83	84	86	83	77	88	83	87	78	80	83	87	90	94	91	88	90	82	83	87	79	75	77	83	80	79	83.3
	Minimum	65	52	56	60	56	62	64	68	62	57	62	55	58	59	64	69	72	75	68	55	60	62	65	56	49	47	52	45	47	50	55	58.9
McKinney	Maximum	85	90	92	86	82	82	81	81	88	82	85	85	88	80	80	82	85	95	85	86	88	85	75	80	80	81	71	70	72	75	85	82.6
	Minimum	55	60	53	58	51	52	52	42	55	60	55	55	57	52	58	54	42	52	50	50	50	45	45	50	40	40	50	50	40	41	50	50.5
Maddock	Maximum	82	83	82	89	89	85	79	79	86	87	90	89	86	86	79	84	86	92	97	97	85	90	91	78	77	78	78	74	73	70	81	83.9
	Minimum	65	68	62	51	54	52	47	55	50	56	48	73	49	50	52	44	40	37	45	45	34	47	36	37	38	45	40	48	47	42	42	48.4
Marmarth	Maximum	84	93	90	94	93	83	90	81	91	85	95	87	93	77	81	83	90	94	92	82	90	88	75	80	83	81	80	80	76	81	96	86.1
	Minimum	54	54	55	55	55	56	48	59	59	53	62	59	57	59	52	49	46	48	60	52	58	58	53	47	47	57	59	51	43	39	55	53.5
Minot	Maximum	86	91	91	89	87	79	83	83	86	88	91	88	92	79	80	83	88	98	88	79	92	88	76	80	80	83	79	70	75	78	78	84.1
	Minimum	48	60	55	58	54	49	49	45	52	58	45	54	49	55	52	52	39	44	52	50	45	58	45	33	35	40	41	45	43	39	43	48.0
Mott	Maximum	80	93	92	91	98	85	91	87	83	90	94	83	92	83	78	90	93	89	92	83	89	87	82	83	80	82	80	88	74	89	91	86.8
	Minimum	53	58	60	62	65	55	58	56	52	60	63	52	56	51	51	46	51	53	54	48	50	47	44	40	42	43	45	46	40	38	48	51.2
Napoleon	Maximum	85	93	85	92	96	94	85	85	84	55	91	80	91	84	79	82	85	94	95	82	90	91	75	81	83	85	78	78	79	75	79	85.3
	Minimum	48	58	62	62	55	62	50	52	54	64	58	65	52	57	54	51	45	48	60	55	48	60	52	45	43	40	48	51	47	40	42	52.5
New England §§	Maximum	82	92	92	89	90	79	86	86	85	85	89	82	91	76	78	78	85	90	92	79	88	86	73	77	72	76	76	78	74	78	85	83.0
	Minimum	51	65	60	60	63	60	48	56	62	58	58	62	56	53	56	46	45	51	57	53	45	51	55	41	50	51	52	55	44	38	44	53.1
New Salem	Maximum	82	90	95	89	96	84	92	81	82	86	91	81	90	87	86	83	90	93	95	90	88	91	82	78	81	83	78	79	77	75	83	85.7
	Minimum	47	61	63	54	66	55	54	51	57	55	57	59	52	53	57	54	53	48	67	52	50	53	51	49	46	47	50	49	44	42	50	53.2
Orange	Maximum	82	94	91	92	98	90	88	88	89	88	98	85	95	91	81	82	87	93	94	81	89	96	90	79	78	77	78	78	76	82	79	86.8
	Minimum	50	63	62	65	45	60	44	45	58	56	54	64	50	51	54	51	39	50	54	52	44	37	38	36	50	54	56	54	41	34	51	50.3
Park River	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Pembina §§	Maximum	92	89	91	92	98	84	84	89	91	89	89	86	89	91	81	81	88	92	99	88	84	86	81	77	73	69	71	64	62	74	76	83.9
	Minimum	56	62	58	61	64	61	61	51	51	62	61	59	57	54	58	58	56	56	62	59	56	58	52	52	46	51	54	38	46	46	52	54.8
Steele	Maximum	78	86	91	89	96	92	86	90	87	85	92	86	92	85	79	84	89	94	97	91	89	88	83	82	82	79	85	82	85	85	82	86.9
	Minimum	52	56	60	56	62	50	50	52	50	50	58	50	52	50	50	50	62	62	57	54	48	60	50	48	47	46	46	45	45	41	44	51.8
Towner	Maximum	81	86	80	86	91	81	80	81	88	84	86	86	89	87	79	78	86	97	100	100	90	87	86	80	79	80	78	73	73	72	84	84.1
	Minimum	49	60	65	61	60	53	53	50	58	68	53	59	51	60	58	50	50	45	59	59	50	48	49	37	40	43	46	51	50	45	48	52.5
Valley City	Maximum	88	78	86	82	88	79	78	82	75	80	82	80	90	85	81	82	78	87	90	80	82	88	74	75	74	73	72	82	81	67	82	80.7
	Minimum	53	60	66	62	62	59	53	54	60	64	61	56	64	74	51	55	56	53	56	59	45	58	55	42	47	48	41	47	52	41	46	55.0
Wahpeton	Maximum	80	81	84	85	90	84	75	80	81	75	88	86	86	90	80	75	82	88	91	81	84	89	75	78	76	75	73	80	80	71	76	81.3
	Minimum	48	49	65	66	61	65	55	52	52	62	60	68	57	60	52	55	55	49	57	62	45	54	58	49	50	42	43	52	50	42	38	53.6
Westhope	Maximum	86	86	87	88	80	79	79	83	89	86	85	85	87	77	83	88	86	97	99	88	86	86	77	80	79	79	77	72	70	76	85	83.3
	Minimum	58	60	60	61	56	52	51	51	56	56	53	51	51	59	60	59	45	53	52	52	45	57	38	45	41	49	45	45	48	42	46	51.5
Williston	Maximum	86	90	83	86	81	77	85	85	87	81	85	84	90	76	80	80	88	89	93	79	89	83	73	78	80	83	76	70	71	70	94	82.6
	Minimum	58	69	61	61	54	56	50	61	63	59	54	59	51	59	55	53	48	54	59	54	51	55	53	49	58	53	55	56	50	41	56	55.3
Willow City	Maximum	84	86	89	88	91	77	76	81	87	86	87	84	86	82	77	83	85	94	99	82	86	89	76	76	77	76	74	62	71	73	81	82.2
	Minimum	46	60	61	59	56	52	49	46	53	62	52	56	50	47	57	51	46	44	52	54	40	52	43	35	37	42	43	50	43	42	44	49.2
Zap	Maximum	84	93	94	90	89	80	84	83	85	88	91	86	94	79	83	83	87	97	100	81	92	89	75	79	75	84	78	77	74	80	90	85.3
	Minimum	50	64	55	58	56	55	54	50	59	59	66	65	48	62	56	56	46	54	55	46	45	55	51	50	48	50	52	52	44	38	40	53.1
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 850 records.
NO RAIN
Statute Miles
Kilometers
A T.

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WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEPTEMBER, 1919

BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 10, 1919.

Departure of the Mean Temperature from the Normal, September, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., SEPTEMBER, 1919. No. 9.

GENERAL SUMMARY.

The weather was generally mild and pleasant, favorable for all kinds of outdoor work, and as a result of these conditions farm work made excellent progress. With the exception of corn and potatoes, all crops were harvested at the close of the month, and much threshing was done. Fall plowing was well advanced in the eastern part of the State, but in the central and western portions the soil was too dry for best results. The seeding of winter rye was greatly curtailed on account of this dryness, and in consequence the acreage of this crop will be greatly reduced. The first freezing temperatures occurred on the 25th, but as most crops were out of danger from frosts, practically no damage occurred. Pastures and ranges afforded considerable feed at the close of the month, and livestock were generally in good condition.

TEMPERATURE.

The mean temperature for the State was 58.6°, or 2.2° above the normal, and 6.7° higher than the mean for September, 1918. The highest mean reported was 62.8° at Fullerton, Dickey County; the lowest was 54.1° at Lakota, Ramsey County. The highest temperature reported was 100° at Forman, Sargent County, on the 6th; the lowest was 20° at Minot, Ward County, on the 25th. The greatest monthly range was 74° at Lisbon, Ransom County; the least was 53° at Pembina, Pembina County. The greatest daily range was 51° at Bowman, Bowman County, on the 15th, and at Forman, Sargent County, on the 1st. The first decade was, naturally the warmest, and the third decade the coldest. Usually the highest temperature occurred on the 5th or 6th, and the lowest on the 25th.

PRECIPITATION.

The average precipitation for the State was 0.92 inch, or 0.72 inch below the normal, and 0.53 inch more than the average for September, 1918. The greatest monthly amount reported was 3.18 inches at Minot, Ward County; the least was 0.06 inch at Forman, Sargent County. The greatest amount recorded in any twenty-four consecutive hours was 2.30 inches at Minot, Ward County, on the 10th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 0.3 inch. The distribution of precipitation was fairly uniform, both geographically and throughout the month. The greater portion of the precipitation, however, occurred during the first one-half of the month, the stormiest period being from the 4th to the 13th, inclusive.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.98	30.40	3	29.40	20	57	7,373	10.2	32	nw.	20
Devils Lake	29.94	30.42	3	29.28	20	44	7,276	10.0	36	nw.	24
Ellendale	29.96	30.36	3	29.41	20	56	9,539	13.2	41	s.	12
Grand Forks	29.94	30.37	3	29.40	20	90	.....	.....	39	sw.	24
Williston	29.94	30.36	3	29.28	19	48	6,557	9.1	40	w.	6
Moorhead, Minn	29.97	30.41	3	29.41	20	57	5,770	8.0	30	nw.	23
Averages or extremes.	29.97	30.42	3	29.28	19†	.....	.....	10.1	41	s.	12

*For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	216.3	376.6	57	− 5	78	46	46	17	19
Devils Lake	240.5	377.2	64	+ 4	83	51	58	29	26
Ellendale	224.9	376.0	60	.....	83	.....	52	23	19
Grand Forks	.....	.....	.....	.....	90	.....	67	.....	.....
Williston	255.6	377.2	68	+ 9	74	48	47	22	5
Moorhead, Minn.	.....	.....	.....	.....	87	.....	64	.....	.....
Averages or extremes	234.3	376.8	62	+ 3	82	48	56	17	19

*And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.28	−1.36	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	3.01	+1.37	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.

Climatological Data for September, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	60.6	+3.3	94	7	28	25	48	1.49	−0.52	0.72	0	4	16	13	1	n.	E. T. Carley.
Arnegard	McKenzie	.....	1	59.6	.....	90	12	32	27	45	0.53	.....	0.19	0	5	9	15	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	59.8[a]	+2.5	93[a]	6	29[a]	25	46[a]	0.09	−0.96	0.09	0	1	.....	.....	.....	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. F. Yunker.
Berthold Agency†‡	McLean	2,082	25	60.4[a]	+3.4	92[a]	12	30[a]	25	50[a]	1.70	+0.25	0.68	T.	8	14	8	8	nw.	C. L. Hall.
Bierman	Slope	.....	3	55.9	.....	86	16	30	28	35	0.77	.....	0.28	T.	5	15	2	13	nw.	E. F. Bierman.
Bismarck	Burleigh	1,674	45	61.0	+2.9	93	6	34	25	45	0.34	−0.85	0.14	T.	4	13	8	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	55.2	−0.3	85	6	23	25	38	0.96	−0.70	0.45	0	7	9	9	12	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	54.8	.....	85	6†	26	25	41	0.65	.....	0.45	.....	3	16	0	14	.....	G. H. Phelps.
Bowman	Bowman	.....	5	59.2	.....	91	12	32	28	51	0.46	.....	0.20	T.	5	16	5	9	nw.	M. W. Madsen.
Cando	Towner	1,488	18	57.8	+2.2	84	6	26	29	40	1.12	−0.37	0.60	0	9	15	6	9	se.	J. M. Russell.
Carson	Grant	2,500	7	58.8	.....	95	6	30	28	40	0.80	.....	0.25	T.	5	20	5	5	se.	J. W. Evens.
Colgate	Steele	1,177	5	59.6	.....	90	5	29	24	43	1.17	.....	0.65	0	3	.....	.....	.....	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	0.50	−1.22	0.25	T.	3	19	7	4	nw.	S. Friswold.
Crosby	Divide	1,954	12	56.1	+2.4	80	12	31	26	34	0.78	−0.46	0.56	0	4	7	17	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	57.1	+1.5	86	6	30	25	32	0.95	−0.44	0.77	0.2	4	9	11	10	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	60.1	+3.6	92	1	32	28	49	0.70	−0.38	0.22	0	6	12	10	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	58.3	+4.3	88	11†	26	25	44	0.97	−0.86	0.75	0	5	7	16	7	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	59.4	.....	90	12	33	28	45	0.66	.....	0.40	T.	4	14	10	6	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	54.8	0.0	83	6	26	25†	39	1.62	−0.02	0.47	T.	10	10	9	11	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	56.6[a]	+1.1	86[a]	12	22[a]	25	50[a]	0.82	−0.42	0.47	T.	5	15	6	9	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	61.4	+3.9	96	5	25	25	42	0.33	−1.43	0.16	0	6	7	16	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	60.5	+2.1	94	5	30	25	41	0.19	−1.39	0.13	0	4	6	11	13	nw.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.47	1.6	5	4	19	7	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	1.76	+0.35	0.88	T.	4	13	13	4	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	57.4	.....	90	5	21	25	42	0.86	.....	0.65	T.	5	19	4	7	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	63.6	+4.2	100	6	30	25	51	0.06	−1.89	0.02	0	3	11	12	7	nw.	H. T. Denk.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.62	.....	0.30	T.	4	16	6	8	nw.	Verne King.
Fullerton	Dickey	1,439	21	62.8	+6.1	94	6	29	25	36	0.35	−1.76	0.28	0	2	12	10	8	nw.	F. O. Alin.
Garrison	McLean	1,901	24	58.1	+1.3	89	12	27	25	40	1.29	−0.09	0.36	2.0	6	10	14	6	nw.	G. L. Robinson.
Grafton	Walsh	827	27	58.9	+3.0	88	6	26	25	38	0.89	−0.90	0.36	0	4	22	0	8	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	58.5	+2.3	91	7	29	25	32	2.23	+0.44	1.70	0	8	12	9	9	se.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. E. Pooley.
Granville	McHenry	1,504	12	57.5	+3.1	89	12	26	25†	36	1.80	+0.45	0.96	1.0	4	6	18	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	54.4	+0.5	85	6	25	25	40	2.49	+0.35	1.63	0	9	7	9	14	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	54.4	+0.3	84	1†	23	25	37	2.73	+0.93	0.80	T.	9	12	10	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	57.6	−0.4	93	12	30	27	43	0.34	−1.20	0.13	0	3	25	2	3	nw.	U. J. Downey.
Hillsboro	Traill	901	13	60.8	+1.8	92	7	30	25	38	0.93	−1.81	0.28	0	6	11	16	3	n.	F. E. Mayall.
Howard †‡	Williams	2,275	12	56.8	+3.0	88	6	29	27	41	0.94	−0.49	0.56	1.6	6	7	13	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	62.0	+5.3	92	6	29	25	44	0.85	−0.68	0.44	0	4	20	1	9	se.	S. Calvelage.
Lakota	Nelson	1,579	18	54.1[b]	−1.0	87[b]	4	22[b]	25	49[b]	1.03	−0.15	0.59	0	4	.....	.....	.....	nw	C. R. Pettes.
Lamoine	Kidder	1,936	11	58.6[b]	+2.0	90[b]	5	22[b]	25	40[b]	0.22	−1.29	0.20	0	2	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	54.8	+1.3	84	6	24	25	35	0.97	−1.07	0.33	0	8	.....	.....	.....	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	57.7	+2.5	90	7	29	25	42	1.25	−0.46	0.65	T.	3	10	8	12	n.	Reuben Gray.
Linton	Emmons	1,711	1	61.3	.....	99	6	34	25	43	0.20	.....	0.10	0	2	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	61.2	+3.5	96	7	22	25	46	0.52	−1.73	0.30	0	2	15	7	5	.....	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.30	0	5	16	9	5	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	56.8	+2.7	86	1†	30	25†	42	0.55	−0.99	0.31	0	3	3	23	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	.....	.....	93	5	.....	.....	.....	0.31	.....	0.15	0	4	23	4	3	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	55.6	.....	83	5†	24	25	40	1.49	.....	1.24	1.0	3	7	15	8	nw.	A. T. Felland.
Mandan	Morton	1,644	5	60.7	.....	94	6	33	25†	39	0.49	.....	0.21	T.	5	11	9	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	58.0	+2.1	87	12	24	25	36	0.96	−0.51	0.67	0	4	8	15	7	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	59.4	+3.8	91	11	32	27†	45	0.94	−0.33	0.45	0.3	6	13	5	12	w.	S. P. Grane.
Mayville	Traill	975	23	61.9	+4.5	94	6	28	25	41	0.99	−1.35	0.58	0	3	17	6	7	n.	W. C. Gould.
Melville	Foster	1,590	21	59.6[c]	+3.2	89[c]	5	26[c]	24	40[c]	0.68	−0.76	0.36	0	4	.....	.....	.....	nw.	J. P. Kidder.
Minot	Ward	1,557	23	56.3	−0.4	88	12	20	25	44	3.18	+1.60	2.30	T.	6	7	15	8	e.	W. I. Faris.
Minto	Walsh	820	26	60.4	+4.0	91	7	26	25	38	0.86	−1.14	0.38	0	7	14	10	6	ne.	C. M. Evans.
Mott	Hettinger	2,424	12	58.2	+1.9	92	12	32	28	43	1.25	−0.32	0.63	0	7	12	9	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	60.8	+3.9	96	6	24[a]	25	48[a]	0.66	−0.63	0.25	0	5	12	7	11	nw.	C. J. Hoof.
New England	Hettinger	2,400	25	57.8	+2.0	89	12	34	28†	44	0.60	−0.57	0.20	T.	5	12	4	14	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	59.8	+2.6	92	6	30	28	42	0.83	−0.62	0.42	0.2	5	15	9	6	nw.	J. Christiansen.
Orange †‡	Adams	2,586	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. F. Young.
Park River	Walsh	998	15	59.4[b]	+2.5	89[b]	13	29[b]	24	47	0.90	−0.66	0.44	0	4	.....	.....	.....	w.	J. P. George.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	57.3	+3.5	84	13	31	25	36	1.00	−0.80	0.44	0	7	11	8	11	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	58.9	.....	90	5	23	25	43	0.35	.....	0.20	T.	2	6	11	13	nw.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	0.29	−1.73	0.14	0	4	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	1.28	.....	0.85	0	5	10	8	12	e.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.46	−0.51	0.19	0	3	12	12	6	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	59.9	+2.1	94	5	33[a]	29	42[a]	1.49	+0.22	0.64	0.5	5	17	6	7	se.	H. S. Wood.
Taylor	Stark	2,493	3	60.6[a]	.....	89[a]	6	31[a]	27	42[a]	0.29	.....	0.15	T.	4	.....	.....	.....	nw.	H. Leutz.
Towner	McHenry	1,482	17	57.8	+2.0	85	6†	28	25	43	2.43	+1.47	1.10	T.	4	16	5	9	w.	B. Bagley.
Turtle Lake	McLean	1,899	5	59.8	.....	91	5	26	25	43	0.82	.....	0.53	0	4	4	16	10	n.	A. T. Anderson.
Valley City	Barnes	1,245	1	59.6	+1.4	90	5	26	25	36	0.44	−1.28	0.18	0	4	16	9	5	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	61.6	+3.0	90	6	28	25	40	0.59	−1.71	0.22	0	6	.....	.....	.....	.....	G. C. Morehart.
Walhalla	Pembina	966	12	57.9	+2.0	87	1	31	24†	42	0.62	−1.23	0.27	0	3	11	14	5	n.	Ivan Lee.
Washburn	McLean	1,734	20	58.7	+0.2	90	5†	30	24	40	1.19	−0.05	0.54	0	5	9	16	5	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	57.8	+3.0	87	5	22	25	40	0.53	−0.83	0.23	T.	6	12	13	5	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	58.0	−1.5	88	11	32	27	45	0.99	+0.08	0.93	0	4	9	15	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	55.5	+1.2	85	6	22	25	40	0.96	−0.70	0.55	T.	4	8	15	7	nw.	M. A. Östby.
Zap	Mercer	1,800	6	60.1	+4.0	89	5†	31	28	47	0.57	−0.69	0.43	T.	3	11	11	8	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	60.4	+3.8	91	7	32	25	32	1.34	−0.96	0.64	0	5	13	7	10	se.	U. S. Weather Bureau.
Averages				58.6	+2.2	100	6	20	25	51	0.92	−0.72	2.30	0.3	5	12	10	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Polley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1919.

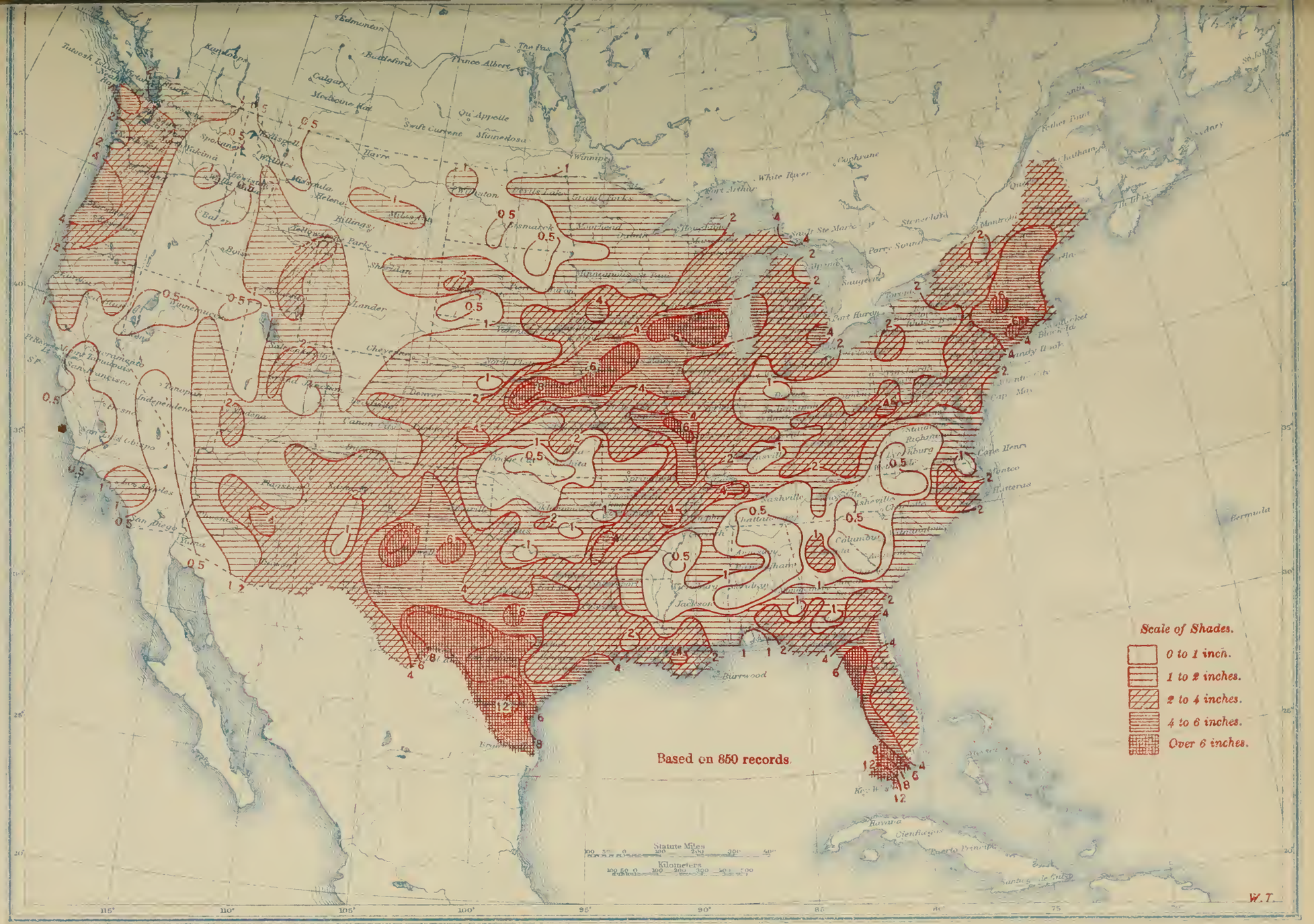
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red					T.					.31			.72					.36	T.										.10			1.49
Arnegard	Missouri			.04			.09	.13		.19																			.08				0.53
Ashley	Missouri				.09																										T.		0.09
Beach	Lit. Missouri																																
Berthold Agency	Missouri	T.		.03	T.		.15	.28	.03	.28			T					.68				.05							.20				1.76
Bierman	Lit. Missouri	T.		.28				.20	.04											.02									.23				0.77
Bismarck ***	Missouri	T.		T.	T.					.14				.02				.05			T.		T.			T.			.13				0.34
Bottineau‖ ‖	Mouse						.15	.20		T.	.45				T.	T.					.08		.03	.02						.03	T.		0.96
Bowbells ‖ ‖	Mouse							.45															.08							.12			0.65
Bowman	Grand			.20	.01				T.	.10			.07								T.	T.							.08				0.46
Cando	Sheyenne	.02					.16	.03		.60				.10								.12	.01						.02		.06		1.12
Carson	Heart			.14									.25	.04					.14										.23				0.80
Colgate	Sheyenne												.24					.65													.28		1.17
Cooperstown	Sheyenne									.15			.10																.25				0.50
Crosby	Monse							.56		.03													.04						.15				0.78
Devils Lake ***	Sheyenne	T.		T.		.01	.09	T.		.77	T.			T.				T.				T.	T.	T.					.08		T.		0.95
Dickinson‖ ‖	Heart		T.	.04	T.	T.		.21	T.				.22			T.		.05					T.						.09	.09	T.		0.70
Donnybrook	Mouse						.06	.06		.75										.04	.06								T.				0.97
Dunn Center	Knife	.09					.02		T.	.40																			.15				0.66
Dunseith	Mouse						.24	.47		.45	.20				.02							.12	.05	.01	.05				T.		.01		1.62
Eckman	Mouse						.13	.09		.47													.06						.07				0.82
Edgeley	James				.16					.02				.14																	.01		0.33
Ellendale ***	James	T.	.01	T.	.13				T.	T.			.04	.01				T.			T.								T.	T.	T.		0.19
Energy	Missouri			.02				T.		.47			.03									T.	.04						.16				0.72
Epping	Missouri							.88		.02								.83											.03				1.76
Fessenden‖ ‖	James		T.		T.			T.	T.		.65			.06									.05							.10	.02		0.88
Forman	Sheyenne				.02									.02									.02										0.06
Fryburg	Lit. Missouri						.30			.08		.12										T.	T.						.12		T.		0.62
Fullerton	James				.07								.28																	T.	T.		0.35
Garrison	Missouri	T.		.36			.09		.05	.34				.25															.20				1.29
Grafton‖‖	Red						.13			.36				.29																.21			0.89
Grand Forks ***	Red	.01								.11				1.70				.02				.09	.02						.25		.03		2.23
Grand Rapids	James																																
Granville	Mouse	T.			T.		.46	.26		.96				T.	T.														.12				1.80
Hannah	Pembina			T.			1.63		.24		.17				.10			.11			.06	.09			.02						.07		2.49
Hansboro	Red						.20	.80		.40	.33			.50				.07				.18							.05				2.73
Hettinger	Grand												.11																.13	.10			0.34
Hillsboro	Red									.17				.28					.27							T.			.14	.04	.03		0.93
Howard	Missouri			T.		T.		.56	.02	.04			.05	T.	T.		T.	T.			.07	T.					T.	T.	.20	T.			0.94
Jamestown ‖ ‖	James					.26							.10					.44												.05			0.85
Lakota	Sheyenne	T.					.11	.21		.59				.12				T.			T.												1.03
Lamoine	Missouri			T.	T.					.20								.02															0.22
Langdon‖ ‖	Pembina						.07		.09		.33			.17	.03				.20		.03				.05								0.97
Larimore ‖ ‖	Red										.30			.65																.30			1.25
Linton	Missouri								.10									.10															0.20
Lisbon	Sheyenne				T.	.22									.30	T.			T.											T.	T.		0.52
McClusky	Missouri							.02		.30			.20									.02							.10				0.64
McHenry	James																																
McKinney	Mouse							T.		.31			T.								.05	T.							.19				0.55
McLeod	Sheyenne				.05									.15					.03									.08					0.31
Maddock	Sheyenne						.15			1.24																			.10				1.49
Mandan‖ ‖	Missouri				T.					.12	.08			.07				.01	T.										T.	.21			0.49
Manfred	Sheyenne						.17			.67				.02															.10				0.96
Marmarth	Lit. Missouri	T.		.14	.01			.02					.45		T.						.02	T.							.30				0.94
Mayville	Red										.16								.58										.25				0.99
Melville	James									.36				.08									.12							.12			0.68
Milnor	Red																																
Minot ‖ ‖	Mouse						.20	.50	.01		2.30												.02						.15				3.18
Minto	Red						.03	.01		.38				.15															.24	.03	.02		0.86
Mott	Cannon Ball	T.	T.		.15				.02	.07				.16				.63											.18	.04			1.25
Napoleon ‖ ‖	Missouri					.07					.12			.25				.17												.05			0.66
New England ‖ ‖	Cannon Ball				.06								.20					.15											.04	.15			0.60
New Salem	Heart				T.					.42				.17				.01			T.		.05						.18				0.83
Orange	Cannon Ball																																
Park River	Red									.41				.28								.04							.14				0.90
Parshall	Missouri																																
Pembina ‖ ‖	Red						T.	.04			.04			.20	.10				.44			.10	.08		T.					T.			1.00
Pettibone	James									.20				.15								T.							T.				0.35
Power	Missouri				.09									.14		.04													.02	T.			0.29
Powers Lake	Sheyenne							.85	T.				.30							.06	T.	.03	T.						.04				1.28
Selfridge	Missouri				.19								T.	T.				.17					T.						.10	T.	T.		0.46
Sherwood	Mouse																																
Steele	Missouri									.15				.45				.64				T.	.01						.24				1.49
Taylor	Heart			.02	T.			T.		.11			.01		T.						T.		T.						.15		T.		0.29
Towner	Mouse						.28	.33		.72				1.10	T.														T.				2.43
Turtle Lake	Missouri			.01						.53				.18								T.						.10					0.82
Valley City	Sheyenne	T.								.09				.15					.18										.02				0.44
Wahpeton‖ ‖	Red					.13								.02	.16														.22	.04	.02		0.59
Walhalla	Pembina						T.	T.			.27			.12	T.								.23											0.62
Washburn	Missouri									.28				.54				.05					.04					.28					1.19
Westhope	Mouse						.04	.14		.23			T.					.04			.06	.02							T.				0.53
Williston ***	Missouri			T.		T.	.67	.26		.01				T.	T.			T.	.01		T.	T.							.05				0.99
Willow City	Mouse			T.				.20		.55				.07				.14				T.							T.				0.96
Zap	Knife							T.		.43			T.										.02						.12				0.57
Moorhead, Minn ***	Red				.03				T.	.11				.52					.64										.04		T.		1.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	85	75	71	72	90	93	94	85	71	81	86	86	84	72	79	81	82	76	78	71	68	54	74	66	64	83	64	49	54	52	..	74.7
	Minimum ...	46	53	49	38	42	58	60	55	50	49	43	45	51	49	55	46	47	55	48	47	41	45	42	37	28	66	42	39	36	37	..	[a]46.6
Ashley	Maximum...	81	68	62	66	92	93	86	78	87	81	84	86	80	65	80	..	85	81	77	71	63	60	72	70	62	81	58	45	49	53	..	[a]73.0
	Minimum ...	58	54	52	50	55	56	59	53	53	56	41	54	58	46	34	..	49	55	47	52	38	40	40	39	29	38	37	34	32	42	..	[a]46.6
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Miuimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum...	87	86	81	75	87	90	77	75	79	81	87	92	82	59	84	83	84	76	77	73	..	68	72	61	71	67	50	45	52	54	..	[a]74.0
	Minimum ...	67	48	52	55	61	54	56	55	55	50	43	60	47	47	34	45	52	49	47	..	41	49	40	37	30	37	35	33	33	44	..	[a]46.8
Bismarck	Maximum...	86	72	66	67	92	93	76	77	78	79	87	91	80	63	80	89	80	81	78	70	63	66	72	67	68	74	50	45	49	56	..	73.2
	Minimum ...	59	56	55	52	60	60	62	54	54	51	42	66	54	45	38	53	56	52	49	49	43	43	48	38	34	44	36	34	35	44	..	48.9
Bottineau	Maximum...	80	74	73	75	77	85	63	70	64	75	82	83	75	57	74	72	74	73	73	68	67	60	70	60	59	66	48	40	47	52	..	67.9
	Minimum ...	53	39	51	44	46	56	56	49	50	48	44	52	49	46	31	44	50	50	43	45	37	38	39	34	23	38	29	30	27	35	..	42.5
Bowbells §§	Maximum...	73	76	69	75	80	85	72	71	72	78	84	85	72	65	76	79	79	72	74	65	58	66	70	62	65	68	45	36	48	59	..	69.3
	Minimum ...	37	33	40	44	54	51	42	48	49	48	43	52	42	40	32	46	46	46	43	42	36	37	39	39	26	34	28	30	30	30	..	40.2
Carson	Maximum...	77	68	60	60	89	95	76	70	78	80	88	75	70	65	80	85	75	80	80	65	55	60	70	70	70	62	52	44	45	52	..	69.9
	Minimum ...	66	52	50	50	52	55	60	55	56	55	50	60	50	44	40	55	55	55	50	50	35	40	45	40	34	44	34	30	32	40	..	47.8
Crosby	Maximum...	74	71	70	74	78	78	73	78	73	75	77	80	64	62	71	75	77	76	75	66	55	64	68	67	62	41	41	38	51	55	..	67.0
	Minimum ...	56	40	50	46	57	49	53	56	63	52	53	56	49	43	37	47	49	46	42	44	39	40	45	33	45	31	32	33	37	38	..	45.2
Devils Lake	Maximum...	83	72	69	74	84	86	68	67	68	74	78	81	77	81	73	76	74	77	73	65	58	54	68	60	59	72	50	39	48	51	..	68.0
	Miuimum ...	54	45	51	47	58	57	53	50	52	52	46	53	57	51	46	45	52	53	49	46	39	39	45	35	30	42	38	32	30	38	..	46.2
Dickinson	Maximum...	92	82	68	64	83	90	78	76	80	77	91	89	83	66	84	88	82	77	77	73	73	66	71	71	75	72	55	45	46	55	..	74.3
	Minimum ...	46	46	42	52	56	57	55	56	56	53	42	59	51	46	36	45	50	52	48	51	37	37	44	36	42	42	33	32	33	42	..	45.9
Donnybrook	Maximum...	83	80	74	75	85	86	74	87	70	79	88	88	80	65	80	77	80	75	70	57	65	68	68	70	63	65	62	43	49	51	..	71.9
	Minimum ...	64	36	50	59	69	52	55	50	54	51	46	52	47	45	38	41	48	46	48	40	37	39	38	41	26	30	30	34	31	43	..	44.7
Dunseith	Maximum...	80	71	69	73	72	83	80	67	67	72	78	81	76	64	72	71	72	71	71	63	55	57	66	61	58	65	55	42	49	50	..	67.0
	Minimum ...	58	36	49	44	55	52	54	47	49	44	44	52	53	45	33	42	50	50	39	46	39	37	44	31	26	35	31	32	26	37	..	42.7
Edgeley	Maximum...	85	79	68	70	96	95	92	76	72	82	85	85	83	80	80	85	84	85	81	75	65	67	75	71	62	82	72	53	52	57	..	76.5
	Minimum ...	58	51	49	47	57	56	55	49	48	55	43	51	55	49	40	44	57	55	47	47	39	39	39	40	25	43	38	36	33	41	..	46.2
Ellendale	Maximum...	86	66	66	70	94	93	89	75	77	82	82	82	82	68	79	86	84	83	78	65	65	58	75	73	57	83	52	43	48	56	..	73.3
	Minimum ...	61	53	51	42	58	58	60	56	52	51	45	52	55	48	41	45	59	57	47	48	42	41	41	36	30	47	41	36	34	44	..	47.7
Fessenden	Maximum...	87	75	70	73	90	85	76	72	73	77	86	86	82	65	79	79	75	80	76	68	65	60	71	66	60	78	56	47	50	54	..	71.9
	Minimum ...	61	43	49	39	56	52	57	47	46	53	44	51	51	46	35	40	49	51	43	50	35	36	41	33	21	36	33	30	26	36	..	43.0
Forman	Maximum...	89	79	73	77	96	100	84	93	84	86	91	90	90	76	93	92	85	90	84	72	69	60	76	74	64	85	74	54	52	54	..	79.5
	Minimum ...	38	48	49	40	59	61	56	65	52	59	44	54	57	45	52	49	55	61	45	52	41	42	41	34	30	42	41	39	37	41	..	47.6
Fullerton	Maximum...	85	80	79	72	93	94	89	76	75	80	76	83	82	75	89	85	80	83	78	66	64	69	71	72	65	81	63	50	49	60	..	75.8
	Minimum ...	59	53	54	41	58	60	60	55	52	45	55	58	60	55	64	65	70	62	58	50	38	40	39	49	29	47	30	34	34	40	..	50.1
Garrison	Maximum...	83	71	66	70	87	82	75	73	75	78	84	89	83	59	77	77	80	75	75	68	60	65	70	61	63	67	54	44	50	53	..	70.5
	Minimum ...	61	52	52	49	59	51	56	51	54	51	44	59	42	42	40	53	52	50	49	47	39	38	43	39	27	36	34	31	28	41	..	45.7
Grafton	Maximum...	85	81	72	76	86	88	84	75	65	75	75	84	82	76	76	78	75	74	78	71	66	55	71	65	62	77	69	47	51	51	..	72.3
	Minimum ...	57	43	44	38	55	53	63	51	49	52	44	49	55	53	49	44	45	55	52	48	40	42	45	32	26	47	42	35	33	33	..	45.5
Grand Forks	Maximum...	80	71	67	72	86	84	91	66	67	76	76	82	80	62	74	75	75	77	73	69	62	53	74	60	59	76	53	41	47	61	..	69.6
	Minimum ...	57	46	50	41	60	54	59	52	50	56	45	51	57	51	48	46	51	53	47	46	40	44	43	35	29	50	41	39	36	44	..	47.4
Granville	Maximum...	82	74	70	76	72	83	72	70	68	77	78	89	75	60	76	79	77	72	70	62	52	60	75	70	60	62	62	45	52	51	..	69.0
	Minimum ...	52	44	54	43	52	58	57	52	52	55	51	53	51	47	40	44	50	52	55	52	42	38	42	46	26	38	38	26	29	40	..	46.0
Hannah	Maximum...	68	73	69	72	84	85	81	72	73	70	72	74	73	70	72	72	71	70	69	70	67	68	60	53	58	69	56	57	60	61	..	68.9
	Minimum ...	49	38	40	41	44	47	46	39	41	39	38	41	42	41	39	49	50	43	42	40	38	36	39	34	25	40	35	31	32	35	..	39.8
Hansboro	Maximum...	84	72	68	74	74	84	72	60	64	72	77	81	75	67	72	73	71	68	70	67	58	54	67	60	60	69	54	45	51	53	..	67.2
	Minimum ...	57	37	47	37	50	57	52	47	47	46	42	46	51	45	39	42	44	42	42	46	38	34	46	37	23	37	32	30	24	35	..	41.7
Hettinger	Maximum...	78	83	56	57	66	91	83	79	85	84	78	93	78	78	68	87	87	85	77	65	66	74	63	65	74	69	45	34	46	60	..	71.9
	Minimum ...	38	52	50	49	53	54	61	54	60	51	53	59	42	42	41	40	57	42	43	32	35	42	44	31	34	32	30	30	34	42	..	44.2
Howard	Maximum...	79	71	68	75	80	88	70	69	76	77	85	75	68	66	75	72	78	72	74	66	55	66	70	70	70	60	50	45	54	60	..	69.5
	Minimum ...	60	40	42	50	52	47	55	52	52	42	45	60	42	42	39	62	52	46	50	43	30	38	38	40	42	50	29	31	32	34	..	44.3
Jamestown	Maximum...	83	80	69	74	88	92	91	72	72	78	86	86	74	78	78	86	78	78	82	78	76	74	81	71	59	78	66	50	54	55	..	75.6
	Minimum ...	60	50	52	51	58	59	58	54	50	56	42	54	58	48	50	48	58	58	45	50	32	38	40	40	29	46	39	35	31	42	..	48.5
Lakota	Maximum...	70	70	74	87	85	78	76	77	68	74	79	72	71	62	53	64	64	69	58	51	44	60	..	..	58	58	56	49	63	61	..	[b]66.1
	Minimum ...	58	40	38	38	38	40	68	48	51	42	52	50	42	43	42	52	41	47	35	37	40	..	..	22	44	38	32	32	32	32	..	[b]42.1
Lamoine	Maximum...	85	72	65	72	90	87	87	78	74	72	85	89	77	56	78	..	..	84	74	68	61	60	71	64	60	72	56	45	54	56	..	[b]71.1
	Minimum ...	62	48	52	59	57	60	65	56	50	50	51	50	48	44	38	..	..	48	43	50	50	32	40	36	22	38	32	32	32	39	..	[b]46.0
Langdon	Maximum...	81	72	69	74	80	84	65	58	62	70	76	81	77	57	72	74	74	68	70	66	60	53	66	54	60	72	62	60	55	48	..	67.3
	Minimum ...	56	40	45	42	48	51	56	47	49	46	43	46	52	49	40	40	42	44	42	44	38	39	40	35	24	43	36	30	30	35	..	42.4
Larimore	Maximum...	81	74	70	74	80	87	90	70	65	75	79	83	83	62	77	74	75	84	78	70	65	55	70	64	74	78	52	52	48	50	..	71.0
	Minimum ...	52	46	47	40	54	55	59	51	47	47	44	45	49	51	51	47	47	42	45	49	40	38	43	34	29	36	40	36	32	36	..	44.4
Lisbon	Maximum...	84	85	65	62	75	93	96	92	75	71	71	84	90	89	87	74	90	83	90	78	64	65	60	75	74	64	80	62	60	53	..	76.4
	Minimum ...	52	53	46	43	52	55	62	53	49	50	50	53	44	52	50	44	45	52	49	50	37	44	38	40	22	42	40	38	35	40	..	46.0
McHenry	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
McKinney	Maximum...	86	74	72	72	82	83	75	71	68	78	81	86	75	62	75	78	79	74	75	70	61	70	70	65	72	61	55	56	52	51	..	71.0
	Minimum ...	45	35	34	40	50	50	48	50	54	51	50	50	48	45	33	38	40	50	55	50	40	35	45	41	30	34	36	30	31	40	..	42.6
Maddock	Maximum...	82	82	72	73	83	83	82	67	68	74	81	80	82	75	72	77	74	76	73	72	65	63	70	67	60	72	65	51	51	52	..	71.4
	Minimum ...	52	48	46	48	47	50	42	40	48	41	48	50	49	40	39	46	50	51	48	47	45	46	45	38	24	35	36	33	25	36	..	39.8
Marmarth	Maximum...	86	68	53	71	80	82	80	78	82	84	91	81	73	66	87	87	84	80	78	71	56	65	73	70	77	66	50	35	50	70	..	72.5
	Minimum ...	64	52	46	51	58	53	52	52	54	53	49	59	46	44	42	50	50	53	50	38	36	35	41	37	40	43	32	32	35	40	..	46.2
Minot	Maximum...	83	78	71	75	87	83	73	70	69	77	86	88	75	58	79	77	78	74	75	77	60	65	70	62	63	64	48	58	55	54	..	71.1
	Minimum ...	62	36	49	46	55	50	51	47	47	50	42	49	47	42	42	40	45	49	40	44	38	32	40	32	20	40	27	27	25	38	..	41.5
Mott	Maximum...	86	83	85	78	70	86	76	78	91	89	89	92	77	67	72	87	80	74	77	68	63	66	67	72	73	67	53	48	51	61	..	74.2
	Minimum ...	48	50	46	43	40	43	40	53	57	51	48	60	47	41	37	44	45	42	38	36	34	38	36	38	35	36	34	32	34	37	..	42.2
Napoleon	Maximum...	85	75	66	68	93	96	86	80	78	80	88	90	82	65	80	89	82	84	77	68	65	61	73	68	65	80	65	45	53	58	..	74.8
	Minimum ...	62	50	50	50	58	60	57	52	55	52	40	58	58	45	33	48	54	50	43	54	33	40	44	36	24	40	35	33	..	40	..	[a]46.7
New England §§	Maximum...	..	79	69	59	61	81	86	72	73	80	79	87	89	73	60	81	84	81	76	76	63	55	65	69	64	74	64	44	40	50	..	[a]69.7
	Minimum ...	53	58	50	51	55	58	56	55	59	49	45	48	47	45	39	40	50	52	48	52	35	39	39	36	39	36	35	34	34	39	..	45.9
New Salem	Maximum...	85	78	62	88	90	92	85	85	75	89	87	91	79	71	80	87	78	80	76	67	62	65	68	61	69	70	49	45	49	51	..	73.8
	Minimum ...	65	57	44	46	49	57	57	55	52	57	52	57	50	40	39	49	52	44	42	39	38	40	41	39	34	45	32	30	31	40	..	45.8
Orange	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Park River	Maximum...	85	73	70	74	86	88	79	66	64	76	76	84	89	78	75	76	77	76	74	69	64	54	70	62	..	76	..	67	50	50	..	[b]72.4
	Minimum ...	53	44	46	40	53	54	60	56	51	53	45	37	56	52	48	48	44	53	46	54	52	43	47	29	..	45	..	33	37	33	..	[b]46.5
Pembina §§	Maximum...	74	74	71	74	74	82	79	78	78	72	72	78	84	71	78	78	77	69	76	69	55	58	61	53	67	68	54	49	59	58	..	69.7
	Minimum ...	51	41	42	41	52	52	61	46	51	51	41	48	54	52	51	44	41	52	42	42	42	41	42	39	31	42	44	41	32	38	..	44.9
Steele	Maximum...	85	77	72	84	94	92	88	78	75	72	79	91	81	64	79	79	79	82	75	72	66	73	73	71	60	65	63	67	60	65	..	75.4
	Minimum ...	48	45	45	44	46	50	48	48	48	50	51	50	50	47	50	48	47	48	..	50	38	40	38	40	35	38	38	38	33	36	..	[a]44.4
Towner	Maximum...	82	75	76	80	78	85	83	68	68	75	85	84	84	70	74	76	77	73	70	70	66	60	59	61	61	66	61	50	48	48	..	71.4
	Minimum ...	45	46	55	48	48	55	54	52	44	54	42	56	50	45	48	45	52	56	50	46	40	43	40	39	28	37	36	35	32	36	..	45.2
Valley City	Maximum...	78	80	80	62	90	85	81	79	67	65	..	82	81	66	82	78	75	78	80	68	62	52	72	65	62	78	57	53	55	51	..	71.2
	Minimum ...	55	48	50	44	58	60	58	54	57	54	54	49	54	46	52	54	52	61	50	54	34	44	43	41	26	44	37	33	34	41	..	47.9
Wahpeton	Maximum...	82	65	72	75	89	90	88	74	76	88	78	80	82	78	75	80	..	..	..	..	..	..	..	..	..	62	82	45	46	52	..	[b]74.2
	Minimum ...	55	52	44	42	57	61	65	55	51	60	42	50	57	48	52	44	..	..	..	..	..	..	..	..	28	49	42	39	42	42	..	[a]49.0
Westhope	Maximum...	78	73	73	77	87	85	70	70	72	77	77	85	75	59	77	78	75	74	75	68	55	62	71	70	62	60	62	58	62	62	..	71.6
	Minimum ...	58	38	51	40	60	53	53	50	51	50	45	55	49	39	33	41	42	50	48	42	38	39	45	42	22	42	40	38	40	42	..	44.5
Williston	Maximum...	78	72	64	74	80	81	61	70	77	80	88	86	65	62	76	75	82	73	76	64	56	67	71	62	72	55	42	39	54	61	..	68.8
	Minimum ...	52	45	55	57	50	54	56	54	56	51	43	56	49	45	37	55	53	51	47	46	40	44	47	45	40	35	32	35	36	41	..	47.1
Willow City	Maximum...	80	74	74	75	77	85	68	66	67	75	82	84	74	63	74	75	76	76	73	66	57	60	68	60	66	49	39	49	59	58	..	68.2
	Minimum ...	61	38	50	37	53	60	55	55	51	47	42	50	43	46	36	42	51	47	40	46	34	38	37	35	22	31	29	32	27	40	..	42.8
Zap	Maximum...	84	75	67	72	89	89	81	75	78	79	88	81	77	59	80	83	81	77	77	71	62	68	72	66	70	68	65	42	52	54	..	72.7
	Minimum ...	55	53	52	53	58	57	54	52	54	59	41	55	45	45	52	54	54	47	49	50	50	51	39	36	33	38	34	31	32	41	..	47.5
.....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
.....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 850 records.
Statute Miles
Kilometers
W. T.

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WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

OCTOBER, 1919

BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 29, 1919.

Departure of the Mean Temperature from the Normal, October, 1919.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., OCTOBER, 1919. No. 10.

GENERAL SUMMARY.

The month was the coldest October in the climatological history of the State, which goes back to 1892. The mean temperature for the State was 33.5°, which is 1.2° lower than the previous lowest October mean, 34.7° in 1917. During the first week of the month, however, the temperature was somewhat above normal, but a cold wave on the 9th brought the temperature much below normal, and this condition continued for the remainder of the month. During a second cold wave on the 26th record-breaking minimum temperatures for October were recorded at many stations, the lowest reported being −18° at Zap, Mercer County. The temperature averaged lowest in the western portion of the State, the minus departure from the normal being about 12° in this section, while in the Red River Valley it was only about 8°. Conditions were favorable for outdoor work during the first week of the month, but low temperature and snowfall interfered considerably thereafter. General falls of snow on the 23d and 24th and later dates put a stop to grazing on pastures and ranges, and resulted in a heavy marketing of stock from western sections, where feed was scarce.

TEMPERATURE.

The mean temperature for the State was 33.5°, or 10.3° below the normal, and 12.7° lower than the mean for October, 1918. The highest mean reported was 39.4° at Forman, Sargent County; the lowest was 26.6° at Bowbells, Burke County. The highest temperature reported was 84° at Pembina, Pembina County, on the 7th, and at Zap, Mercer County, on the 8th; the lowest was −18° at Zap on the 26th. The greatest monthly range was 102° at Zap; the least was 69° at Bowbells, Burke County. The greatest daily range was 55° at Pembina, Pembina County, on the 7th.

PRECIPITATION.

The average precipitation for the State was 1.08 inches, or 0.08 inch above the normal, and 0.54 inch more than the average for October, 1918. The greatest monthly amount reported was 3.63 inches at Fryburg, Billings County; the least was 0.15 inch at Pettibone, Kidder County. The greatest amount recorded in any twenty-four consecutive hours was 1.35 inches at Donnybrook, Ward County, on the 30th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall for the State was 9.3 inches. The greatest snowfall reported was 26.0 inches at Fryburg, Billings County; the least was 1.0 inch at Amenia, Cass County. The precipitation during the first twenty days of the month was light, and occurred mostly on the 1st and 9th. During the last ten days of the month there were frequent falls of snow, which accumulated to depths of a foot or more in many localities.

—E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.09	30.49	19	29.30	8	57	6,018	8.1	30	nw.	9
Devils Lake	30.04	30.45	18	29.22	8	44	7,065	9.5	32	n.	22
Ellendale	30.05	30.40	19	29.36	8	56	9,162	12.3	41	s.	8
Grand Forks	30.03	30.42	19	29.30	8	90	.....	.....	33	sw.	8
Williston	30.05	30.46	19	29.23	8	48	5,856	7.9	36	nw.	22
Moorhead, Minn	30.07	30.44	19	29.32	8	57	5,857	7.9	27	s.	8
Averages or extremes	30.06	30.49	19	29.22	8	.....	.....	9.1	41	s.	8

*For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, per t.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	176.9	336.9	52	− 7	86	59	66	16	8
Devils Lake	197.7	335.6	59	+ 7	82	60	66	20	8
Ellendale	153.0	338.3	45	.....	85	.....	69	36	19
Grand Forks	.....	.....	.....	.....	88	.....	69	.....	.....
Williston	180.4	335.6	54	+ 1	76	56	58	31	7
Moorhead, Minn	.....	.....	.....	.....	86	.....	73	.....	.....
Averages or extremes	177.0	336.6	52	0	84	58	67	16	8

*And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.57	−0.43	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	93	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.

Climatological Data for October, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	37.0[a]	−7.3	81[b]	8	− 7	28	48[b]	0.74	−0.60	0.30	1.0	6	14	3	14	nw.	E. T. Carley.
Arnegard	McKenzie	.....	1	32.4	.....	80	7	− 7	26	48	1.33	.....	1.00	12.0	5	11	10	10	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	35.6	−8.1	78	8	−12	26	41	2.11	+1.07	0.82	13.0	7	15	6	10	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	28.6[a]	−15.4	73[a]	6	−15[a]	26	37[a]	1.06	+0.14	0.55	12.5	6	.....	.....	.....	w.	H. F. Yunker.
Berthold Agency†‡	McLean	2,082	25	32.8	−11.9	80	8	−10	26	49	1.00	+0.11	0.40	9.0	4	.....	.....	.....	nw.	C. L. Hall.
Bierman	Slope	.....	3	33.2	.....	71	6†	0	24	44	1.60	.....	0.90	15.0	4	17	0	14	nw.	E. F. Bierman.
Bismarck	Burleigh	1,674	45	34.6	−9.5	83	8	−10	26	41	0.98	−0.05	0.39	11.4	7	10	10	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	30.8	−10.8	80	8	− 3	26	43	0.84	−0.20	0.50	.....	10	.....	.....	.....	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	26.6[g]	.....	60[g]	4†	− 9[g]	26	39[h]	1.32	.....	0.90	.....	3	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	33.2	.....	79	8	−10	26	49	1.19	.....	0.45	19.4	7	8	7	16	nw.	M. W. Madsen.
Cando	Towner	1,488	18	33.5[b]	−10.2	69[c]	9	− 8[b]	28	43[h]	0.24	−0.56	0.11	.....	6	.....	.....	.....	ne.	J. M. Russell.
Carson	Grant	2,500	7	32.0	.....	70	1†	− 9	26	37	1.04	.....	0.30	8.4	8	13	9	9	nw.	J. W. Eveus.
Colgate	Steele	1,177	5	33.2	.....	80	2	− 7	27	47	0.50	.....	0.30	2.0	3	19	4	8	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	0.50	−0.50	0.30	4.0	3	15	10	6	nw.	S. Friswold.
Crosby	Divide	1,954	12	31.2	−10.3	73	7	− 4	27	39	0.98	+0.25	0.80	9.1	8	12	12	7	w.	John Jensen.
Devils Lake	Ramsey	1,478	15	31.8	−8.7	80	8	− 1	25	38	0.65	−0.58	0.22	6.4	9	10	8	13	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	32.4	−11.5	79	8	−11	26	39	0.58	−0.21	0.12	8.0	10	11	8	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	33.5	−8.6	78	8	−10	26	49	2.52	+1.55	1.35	12.5	5	8	15	8	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	33.4	.....	76	7†	− 5	24†	49	1.00	.....	0.40	10.2	3	9	9	13	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	30.9	−10.2	79	8	− 6	26	50	0.92	+0.15	0.23	7.0	8	15	6	10	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	30.9	−11.8	80[a]	8	−11	26	61[a]	1.47	+0.63	0.40	13.0	5	12	10	9	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	36.6	−9.3	79	8	− 6	26	39	1.18	+0.19	0.57	.....	9	7	14	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	36.0	.....	78	8	− 4	28	39	1.50	+0.33	0.51	12.4	11	8	7	16	nw.	U. S. Weather Bureau.
Energy†‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.39	.....	5	.....	.....	.....	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	2.12	+1.35	1.20	14.5	6	7	15	9	nw.	M. E. Uggen.
Fessenden	Wells	1,610	7	32.6	.....	82	8	−10	26	48	0.80	.....	0.30	8.5	6	18	1	12	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	39.4	−6.4	81	6	− 3	28	44	1.23	−0.15	0.50	.....	8	17	3	11	nw.	H. T. Denk.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	3.63	.....	0.97	26.0	10	5	20	6	nw.	Verne King.
Fullerton	Dickey	1,439	21	35.8	−8.5	77	8	− 4	28	37	2.01	+0.69	0.46	10.1	8	10	8	13	nw.	F. O. Alin.
Garrison	McLean	1,901	24	32.8[a]	−11.0	81[a]	8	−15[a]	26	47[a]	1.24	+0.31	0.33	10.1	7	7	14	10	nw.	G. L. Robinson.
Grafton	Walsh	827	27	33.6	−9.1	82	8	− 9	26	47	0.75	−0.16	0.21	4.9	6	19	0	12	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	32.8	−10.7	80	8	− 9	26	36	0.82	−0.09	0.25	5.0	8	11	9	11	w.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. E. Pooley.
Granville	McHenry	1,504	12	32.4	−11.7	80	8	− 9	26	42	1.64	+0.76	0.60	15.0	6	5	19	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	31.4	−9.1	78	8	− 7	26	50	1.29	+0.31	0.60	12.0	4	16	7	8	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	30.2	−11.1	80	8	− 9	26	45	1.35	+0.45	0.56	14.2	7	16	8	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	36.3	−10.1	79	7	−10	26	51	0.34	−0.36	0.16	8.0	5	15	2	14	nw	U. J. Downey.
Hillsboro	Traill	901	13	35.2	−10.8	78	8	− 7	26	43	0.59	−0.43	0.20	3.0	7	14	8	9	n.	F. E. Mayall.
Howard†‡	Williams	2,275	12	30.6	−10.8	77	7	− 9	26	44	1.24	+0.42	1.00	13.0	5	12	10	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	36.2	−8.6	74	2	− 8	28	39	0.39	−0.60	0.10	2.3	5	7	10	14	nw.	S. Calvelage.
Lakota	Nelson	1,579	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Pettes.
Lamoine	Kidder	1,936	11	32.6	−10.5	82	8	−11	26	45	0.20	−0.50	.....	2.0	3	13	5	13	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	30.2	−10.2	80	8	− 7	28	42	1.02	+0.03	0.32	12.0	7	12	14	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	34.4	−8.9	83	5	− 6	28	47	0.89	−0.35	0.32	5.5	4	13	7	11	n.	Reuben Gray.
Linton	Emmons	1,711	1	34.7	.....	71	1	−10	26†	52	1.25	.....	0.50	.....	5	.....	.....	.....	.....	J. G. Sa3ler.
Lisbon	Ransom	1,091	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.20	4.5	4	11	9	11	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	30.2	−11.5	72	5	−15	26	45	2.37	+1.54	.....	19.5	5	2	19	10	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	36.0	.....	76	8	−12	27	45	1.34	.....	0.68	.....	8	16	3	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	33.6	.....	79	8†	− 5	26	52	0.28	.....	0.13	.....	4	11	11	9	nw.	A. T. Felland.
Mandan	Morton	1,644	5	33.2	.....	82	8	−14	26	46	0.83	.....	0.35	8.5	9	.....	.....	.....	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	32.8	−10.5	79	8	−11	26	50	0.55	−0.35	0.20	4.7	9	9	12	10	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	33.2	−10.9	77	8	− 5	26	42	1.38	+0.63	0.57	15.5	7	5	9	17	sw.	S. P. Grane.
Mayville	Traill	975	23	36.4	−8.5	81	9	− 9	26	46	0.26	−0.92	0.17	4.0	3	16	4	11	nw.	W. C. Gould.
Melville	Foster	1,590	21	34.2[d]	−9.4	78[e]	8	− 3[d]	28	39[e]	0.56	−0.35	0.30	5.0	3	.....	.....	.....	nw.	J. P. Kidder.
Minot	Ward	1,557	23	30.4	−13.2	80	8	−16	26	50	1.88	+0.94	0.80	14.5	7	6	20	5	w.	W. I. Paris.
Minto	Walsh	820	26	37.2[b]	−6.0	82	8	−10[e]	26	48[e]	0.92	−0.22	0.92	.....	7	21	3	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	12	33.2	−9.8	80	8	− 9	25†	43	1.13	+0.01	0.32	9.5	9	10	8	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	34.5	−7.4	80	8	− 8	26	42	1.00	+0.03	0.40	10.0	5	13	9	9	w.	C. J. Hoof.
New England	Hettinger	2,400	25	32.6	−11.1	76[a]	8	− 9	26	43	0.80	+0.14	0.20	8.0	4	.....	.....	.....	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	35.6	−8.7	81	8	−10	26	40	0.98	−0.07	0.60	9.5	6	9	12	10	sw.	J. Christiansen.
Orange†‡	Adams	2,586	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. F. Young.
Park River	Walsh	998	15	35.0	−9.3	82	8	0	26	52	0.73	−0.31	0.25	5.8	5	13	12	6	nw.	C. B. Wright.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	33.4	−7.5	84	7	− 8	31	55	0.50	−0.99	0.18	2.0	3	7	13	11	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	32.7	.....	80	8	−15	26	47	0.15	.....	0.10	1.5	2	3	13	15	nw.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	1.08	−0.42	0.32	4.5	8	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.90	16.5	7	6	9	16	nw.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.45	+0.66	0.50	10.5	7	11	7	13	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	37.5	−6.5	81	8	−12	27	43	1.61	+0.75	0.95	10.0	6	15	12	4	w.	H. S. Wood.
Taylor	Stark	2,493	3	33.4	.....	78	8	− 9	26	47	0.54	.....	0.11	.....	10	10	8	13	nw.	H. Leutz.
Towner	McHenry	1,482	17	32.4	−10.0	80	8	−10	26	43	0.76	−0.20	0.24	8.0	5	12	11	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	33.0	.....	83	8	−12	26	45	0.51	.....	0.20	5.5	5	8	13	10	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	35.4	−7.0	78	8	− 4	28	47	0.32	−0.60	0.13	1.5	6	16	5	10	ne.	C. F. Schroeder.
Wahpeton	Richland	962	25	36.7	−9.2	77	8	− 9	25	36	1.92	+0.37	0.66	.....	11	5	17	9	nw.	G. C. Morehart.
Walhalla	Pembina	966	12	33.9	−9.1	83	8	− 4	28	43	1.84	+0.83	0.60	18.0	5	20	3	8	n.	Ivan Lee.
Washburn	McLean	1,734	20	34.8	−9.7	80	8	−10	26	48	1.25	+0.30	0.39	11.0	9	12	9	10	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	34.8	−6.6	73	2†	− 7	26	38	0.32	−0.42	0.16	.....	3	13	11	7	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	32.1	−10.8	76	7	− 2	26	44	1.65	+0.88	1.07	11.0	11	8	11	12	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	30.3	−11.4	78	8	− 8	26	47	1.22	+0.51	0.32	11.0	8	4	20	7	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	32.6	−12.6	84	8	−18	26	47	0.80	−0.28	0.32	9.5	7	11	7	13	nw.	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	36.5	−6.3	79	8	− 4	26	36	1.22	−0.85	0.34	4.1	9	15	4	12	n.	U. S. Weather Bureau.
Averages	.....	.....	.....	33.5	−10.3	84	7†	−18	26	55	1.08	+0.08	1.35	9.3	6	11	9	11	nw.	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1919.

Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia |||	Red	.10	.20																		.30	T.	.04		.05		T.		.05				0.74
Arnegard	Missouri									.01				.03								.13		.16							1.00		1.33
Ashley	Missouri	.82													.32					.16		T.		.16		.16		.24			.25		2.11
Beach	Lit. Missouri									.21										.07	.03	.09	.55					.11					1.06
Berthold Agency	Missouri	.10																				T.		.40		T.		T.		T.	.40	.10	1.00
Bierman	Lit. Missouri																							.30	.30		.10						1.60
Bismarck ***	Missouri	T.								.08		T.		T.		.27		.03			.90	T.	T.	.31	.10	T.		.16			.03		0.98
Bottineau	Mouse	.09	.03					T.		T.	.03						T.					.01	.07		.03	T.	T.	.02		.01	.05	.50	0.84
Bowbells |||	Mouse		.22																		.40		.20								.90	1.32
Bowman	Grand			T.		T.					.08			T.	T.	T.				*	.40	.02	.01		.45			.23			T.	T.	1.19
Cando	Sheyenne	.06	.02											.01				.01			.02				.11						.03		0.24
Carson	Heart									.05			.02			.05								.30	.20			.20			.20		1.04
Colgate	Sheyenne	.30																					.10		T.	T.		.10					0.50
Cooperstown	Sheyenne	.10																						.30				.10			T.		0.50
Crosby	Mouse	.07		.02						.02												.01	T.	.01	.02	.03					*.80		0.98
Devils Lake ***	Sheyenne	.04					T.			.05				.02								T.	.11	.06	.07			.06	.02		.22		0.65
Dickinson	Heart	.01									.03	T.	T.		T.	.08					.05		.10	.05	.09	T.		.04			.01	.12	0.58
Donnybrook	Mouse	.60								T.						T.						T.	.35		.02			.20			1.35		2.52
Dunn Center	Knife									T.														.20	.40					.40			1.00
Dunseith	Mouse	.23	.05							.20						T.						T.	.10		.08	.03		.03			.20		0.92
Eckman	Mouse	.37								.10														.20	T.	T.		.10			.40	.40	1.47
Edgeley	James	.57														.04			.16		.10		.01	.03		.11		.04			.03		1.18
Ellendale ***	James	.21				.03				T.						.18				.14	.37	T.	.02	.15	.06	.15	T.	.12	T.		.07		1.50
Energy	Missouri	T.								.06		.02			T.			T.				T.		.31	.02		T.	T.	T.	T.	.39		0.80
Epping	Missouri									.03						.04						.25				.02				1.20	.58	2.12
Fessenden	James	.01	T.							.06				T.										.10	.30	T.		.15			.18		0.80
Forman	Sheyenne	.20														.10			T.		.50		.05	*	*	.30		.08			T.		1.23
Fryburg	Lit. Missouri	.16								.33						.20					.31	.16	.07	.97				.14		T.	.87	.42	3.63
Fullerton	James	.46			.06					T.						.43	.18				.46	T.	T.	.12	.20	.10					T.		2.01
Garrison	Missouri	.06								.32						T.						T.	.15	.01	.27			.10			.33		1.24
Grafton	Red	.12								.05													.10		.20			.07				.21	0.75
Grand Forks ***	Red	.19					T.			T.		T.		.01	T.																		
Grand Rapids	James																																
Granville	Mouse	.11								.40				.05		T.							T.	T.	.40	T.		.08	T.		T.	.60	1.64
Hannah	Pembina		.09							.50													T.	T.	.10			T.			.60	T	1.29
Hansboro	Red	.05								.40													.03		.10			.05		T.	.56	.16	1.35
Hettinger	Grand									.02											.16			.04			.10	.02					0.34
Hillsboro	Red	.05	.03							T.											.08		.10		.20			.10			.03		0.59
Howard	Missouri	T.	T.	T.					T.	.02					T.							.08	T.	.06	.08				T.	T.		1.00	1.24
Jamestown	James	.10																	.10		.04				.08							.07	0.39
Lakota	Sheyenne																																
Lamoine	Missouri									T.		T.												*	*	.20					T.	T.	0.20
Langdon	Pembina	T.								.10												.10	.10		.16			.08		.16	.32		1.02
Larimore	Red	.20																					.25		.36						T.	.08	0.89
Linton	Missouri	.50																		.15				.28					.20	.12			1.25
Lisbon	Sheyenne																																
McClusky	Missouri									.10				T.										.10	.20							.05	0.45
McHenry	James																																
McKinney	Mouse	.45								.04														.08					T.		*	1.80	2.37
McLeod	Sheyenne	.68										.10									.45		.10	.04	.06			.01		.11			1.55
Maddock	Sheyenne		.13							.06															.06		.03						0.28
Mandan||	Missouri		T.								T	T.				.03	.15		.02				.02	.03	.35	.02		.16				.03	0.83
Manfred	Sheyenne	.02								.10	.03			T.									.09	.20	.02			.03	T.		.04	.02	0.55
Marmarth	Lit. Missouri	T		T.		T.				.16					.02					.57	T.	.10			.40			.08			.05		1.38
Mayville	Red								T.																.04					.17	.05		0.26
Melville	James	.06																			T.				.30			.20			T.		0.56
Milnor	Red																																
Minot	Mouse	.32								.25				.03								.03	.40					.05				.80	1.88
Minto	Red	.19	.05							.03				T.										.32				.05			.10	.18	0.92
Mott	Cannon Ball			T.						.10						.01	.03			.11		.03		.32		.20	.25	.02				.03	1.13
Napoleon	Missouri	.20														.40			.10					.05				.25					1.00
New England |||	Cannon Ball									T.											.20			.20	.20			.20			T.		0.80
New Salem	Heart	T.												T.		.14		.01	.03				.10	.60							.10		0.98
Orange	Cannon Ball																																
Park River	Red	.11	.06							T.													T.		.23			.08			T.	.25	0.73
Parshall	Missouri																																
Pembina |||	Red	T.									T.												.18						.12		.20	0.50
Pettibone	James	T.								T.											T.		T.	T.	.10			.05			T.		0.15
Power	Missouri											T.							.06		.12		.32	.08	.20		.10	.10		.10			1.08
Powers Lake	Sheyenne	.04		.08						.02				T.							.10		.05	.20					.15	T.	.90	.40	1.79
Selfridge	Missouri	.50								T.						.05					.10		.05	.20		.25		.30					1.45
Sherwood	Mouse																																
Steele	Missouri																	.12				T.		.95	.26		.13				.02	.13	1.61
Taylor	Heart									.10			.01	T.		.07	T.	.01	.01		T.	.05	.06	.11			T.				.09	.03	0.54
Towner	Mouse	.10								.10				T.		T.						T.	T.		.24	.24					.08		0.76
Turtle Lake	Missouri	.03								.20												T.	.16	.02				.10					0.51
Valley City	Sheyenne	.13								T.		T.									T.		T.	*	*	*		.15			.04		0.32
Wahpeton||	Red	.66				.02													.05		.45	.14	.03	.03	.24	.16		*		.14			1.92
Walhalla	Pembina									.20														.32		.32					.40	.60	1.84
Washburn	Missouri	.01														.28			.08				.05	.22				.20	.30		.10	.01	1.25
Westhope	Mouse								.06														.16								.10		0.32
Williston ***	Missouri	.02								.03				.02								.15	T.	.10	.02	.01	.03	.05	T.	.40	.82		1.65
Willow City	Mouse	.21								.32												.08	.05	T.	.16	T.		.08			.16	.16	1.22
Zap	Knife	.01								.04						.08							.03	.32	.16						.16		0.80
Moorhead, Minn ***	Red	.28				.03				T.		T.									.34		.13	.13	.21	.01		.07			.02		1.22

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. \|\| Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	57	77	67	66	70	65	66	81	.....	.....	58	50	61	58	49	50	57	56	53	48	45	49	43	29	22	21	22	28	36	34	36	[b]51.9
	Minimum	44	41	37	38	40	42	29	33	40	15	15	9	26	24	14	16	11	19	17	45	31	33	22	20	9	− 6	1	− 7	− 2	13	12	22.0
Ashley	Maximum	67	71	61	57	67	72	70	78	68	36	48	62	50	38	42	51	52	45	41	38	50	42	31	24	21	18	21	27	47	34	34	47.1
	Minimum	50	41	42	36	42	44	31	44	27	12	23	30	35	19	12	20	32	21	29	29	31	25	19	15	11	− 12	− 1	− 3	12	20	13	24.2
Beach	Maximum	67	64	64	40	69	73	67	39	20	30	40	50	55	46	37	37	50	40	39	42	39	19	15	22	30	15	10	30	15	30	....	[a]39.8
	Minimum	34	33	35	15	36	36	36	19	16	4	20	31	25	31	22	10	16	12	24	24	19	4	7	10	7	− 15	− 8	2	2	15	....	[a]17.4
Berthold Agency	Maximum	63	67	54	62	72	72	78	80	46	37	40	62	50	44	40	45	54	51	....	48	42	42	30	20	20	20	25	34	40	32	23	[a]46.4
	Minimum	49	38	41	23	31	36	29	31	20	− 1	24	19	32	23	26	11	10	17	....	15	32	26	15	14	0	− 10	− 4	− 2	6	18	10	[a]19.3
Bismarck	Maximum	71	71	53	54	70	72	75	83	42	39	39	63	57	46	37	45	53	49	45	47	40	48	29	20	19	15	20	33	35	33	27	46.1
	Minimum	49	42	42	30	40	41	34	42	19	6	26	26	32	29	25	16	17	27	18	33	34	29	18	13	0	− 10	− 3	− 3	14	21	13	23.2
Bottineau	Maximum	52	58	54	57	69	57	71	80	37	29	35	51	51	38	37	44	49	48	50	53	36	37	28	22	19	24	23	35	39	29	22	43.0
	Minimum	46	37	35	23	33	42	29	37	27	13	18	6	19	18	10	10	10	23	18	18	20	28	13	13	....	− 3	3	− 2	9	19	7	18.6
Bowbells §§	Maximum	56	56	55	60	59	.....	.....	.....	.....	.....	.....	.....	60	38	40	46	38	46	35	32	35	35	28	19	12	19	27	35	39	29	25	[c]38.5
	Minimum	36	34	37	21	25	27	.....	.....	.....	.....	.....	.....	.....	20	18	21	14	8	8	20	18	28	9	6	− 1	− 9	− 2	− 4	10	11	− 4	[c]14.6
Carson	Maximum	70	65	55	50	60	70	65	70	45	40	30	60	45	46	45	40	57	40	35	40	40	35	35	15	10	10	9	26	33	32	32	41.9
	Minimum	45	40	40	28	35	40	33	42	15	3	25	20	35	25	25	20	25	28	25	30	32	25	15	5	5	− 9	− 5	− 6	15	25	8	22.2
Crosby	Maximum	53	54	48	55	69	58	73	68	42	34	32	56	42	38	45	41	44	41	43	49	44	36	25	27	24	28	22	33	35	28	18	42.1
	Minimum	40	39	39	26	39	37	34	42	22	13	13	18	33	25	21	12	18	12	14	29	23	22	9	5	6	4	− 4	4	15	18	5	20.4
Devils Lake	Maximum	57	68	56	56	67	53	65	80	46	28	32	52	48	44	40	43	49	47	47	47	38	43	23	21	16	24	18	32	36	32	19	42.9
	Minimum	46	43	36	30	37	31	27	46	19	12	19	18	30	23	18	14	12	19	16	23	30	23	15	3	− 1	2	1	5	19	18	9	20.7
Dickinson	Maximum	68	65	53	48	69	73	75	79	40	37	36	61	55	44	37	41	34	51	45	33	42	42	40	20	15	16	16	32	30	30	23	43.2
	Minimum	45	39	38	24	23	41	32	40	22	− 2	27	25	33	27	26	15	23	26	22	27	27	32	14	9	− 1	− 11	5	− 5	13	23	12	21.6
Donnybrook	Maximum	54	60	58	61	70	63	75	78	59	38	48	60	57	45	44	42	48	46	49	53	50	39	25	20	22	21	24	37	39	34	29	46.7
	Minimum	47	43	41	21	37	48	26	40	22	13	14	12	36	26	21	16	7	8	9	24	28	25	12	10	0	− 10	11	1	19	20	3	20.3
Dunseith	Maximum	52	59	53	55	67	66	69	79	70	27	31	47	47	42	36	43	47	47	48	52	46	35	26	20	19	21	19	33	37	30	24	43.5
	Minimum	44	38	35	25	29	42	28	40	20	12	16	5	33	20	12	5	12	18	7	17	27	24	12	8	1	− 6	8	− 2	13	20	6	18.3
Edgeley	Maximum	61	73	68	58	69	73	68	79	68	41	50	59	61	52	38	44	51	52	48	44	40	48	47	22	20	22	19	32	44	34	34	49.0
	Minimum	49	42	40	33	44	44	29	43	29	11	20	19	30	34	18	12	11	34	18	29	33	30	20	16	10	− 6	− 4	− 4	22	29	14	24.2
Ellendale	Maximum	63	74	61	56	67	75	70	78	58	37	48	60	62	53	39	44	54	52	48	40	41	48	34	23	18	18	19	27	37	34	32	47.4
	Minimum	50	39	44	42	43	40	31	39	26	16	22	21	31	23	22	16	17	24	20	31	35	34	21	10	12	− 3	2	− 4	12	30	14	24.5
Fessenden	Maximum	57	74	58	62	68	61	71	82	64	35	36	58	49	43	44	48	55	50	50	48	40	46	30	23	26	23	23	33	41	32	29	47.1
	Minimum	44	40	35	26	32	39	23	42	21	5	17	7	34	23	10	7	7	17	7	26	27	28	14	10	2	− 10	− 4	− 8	12	23	7	18.0
Forman	Maximum	59	78	72	68	68	81	73	80	65	43	52	63	62	57	45	48	57	61	55	47	41	48	45	26	25	29	22	30	47	36	35	52.2
	Minimum	44	47	43	39	45	38	32	52	34	15	21	19	39	33	17	15	14	33	19	33	34	34	23	20	9	1	4	− 3	19	29	19	26.6
Fullerton	Maximum	65	72	61	67	72	70	68	77	50	37	47	58	60	45	35	42	50	51	47	40	41	47	34	23	20	20	19	28	40	34	32	46.8
	Minimum	41	42	46	40	42	42	38	40	29	12	21	21	28	25	20	14	14	31	20	31	34	32	22	20	8	− 3	2	− 4	15	30	16	24.8
Garrison	Maximum	62	64	52	53	70	66	74	81	68	33	34	55	....	56	45	46	52	48	45	47	45	41	31	27	19	17	21	24	36	34	26	[a]45.7
	Minimum	49	40	42	24	33	43	30	43	21	2	22	25	....	25	22	14	13	13	14	32	30	30	14	8	6	− 15	2	− 4	9	5	5	[a]19.9
Grafton	Maximum	56	70	62	60	71	60	61	82	73	34	40	48	48	50	46	47	53	53	46	47	45	44	36	25	23	25	20	30	35	37	34	47.1
	Minimum	45	45	41	30	31	40	19	38	26	14	16	6	35	14	12	16	10	20	15	13	27	31	18	16	8	− 9	4	− 4	12	24	13	20.2
Grand Forks	Maximum	58	71	59	60	69	53	60	80	45	33	40	45	49	52	45	45	51	51	45	42	43	46	28	24	22	22	22	28	34	34	25	44.5
	Minimum	47	45	40	32	37	33	24	45	21	16	16	10	32	20	16	18	15	24	16	26	31	30	22	13	1	− 9	− 2	− 8	16	25	6	21.2
Granville	Maximum	50	60	60	60	70	57	70	80	50	35	35	54	48	40	40	45	43	47	50	50	38	40	30	22	20	20	23	35	40	30	30	44.3
	Minimum	42	40	40	26	38	30	28	45	30	10	20	20	33	22	20	15	14	17	11	27	28	30	15	5	4	− 9	0	− 5	12	20	3	20.4
Hannah	Maximum	55	57	56	64	70	57	70	78	55	35	30	46	41	40	22	41	48	48	50	42	47	36	26	25	34	34	22	34	37	34	25	44.1
	Minimum	38	34	34	35	37	35	20	39	24	16	13	9	25	18	6	10	18	12	25	23	29	24	13	− 5	− 1	− 7	− 6	10	22	25	9	18.8
Hansboro	Maximum	54	62	55	54	67	62	67	80	60	29	29	43	44	41	37	43	48	48	48	54	47	35	28	19	22	21	22	33	36	33	26	43.5
	Minimum	43	38	34	26	30	21	22	40	23	7	13	8	30	13	13	12	23	14	10	12	27	25	10	2	− 2	4	− 9	2	4	15	20	16.8
Hettinger	Maximum	76	68	60	68	69	71	79	70	47	54	60	63	59	62	60	59	60	54	48	50	40	50	33	28	18	22	18	34	31	36	48	51.5
	Minimum	38	36	41	28	27	37	38	39	− 1	29	35	18	28	26	28	8	19	18	21	20	31	30	15	− 6	6	− 10	− 2	− 5	18	20	24	21.1
Howard	Maximum	57	54	50	60	70	60	77	60	34	36	36	60	60	40	48	49	40	46	45	50	35	37	24	20	20	20	20	34	35	25	29	42.9
	Minimum	44	36	37	26	58	40	41	34	18	10	10	22	30	22	12	10	9	12	12	15	15	22	8	8	3	− 9	− 5	0	14	14	14	18.4
Jamestown	Maximum	58	74	64	58	68	65	63	72	67	36	44	68	56	49	44	47	53	52	48	46	43	50	42	21	18	26	18	31	40	34	39	48.2
	Minimum	47	44	42	36	45	43	42	40	28	12	22	11	32	32	20	14	11	37	12	29	33	32	20	16	5	− 6	0	− 8	14	29	13	24.1
Lakota	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lamoine	Maximum	61	60	56	56	64	64	72	82	68	32	35	55	62	44	38	44	52	48	45	47	41	41	30	17	19	17	17	28	37	32	28	44.9
	Minimum	48	50	32	26	36	40	41	40	23	− 2	18	10	22	24	20	10	13	20	15	30	30	30	17	12	− 1	− 11	12	− 7	13	12	8	20.4
Langdon	Maximum	73	65	54	58	68	50	62	80	55	35	30	47	44	42	41	45	52	49	50	49	40	38	21	20	12	20	18	31	40	30	21	43.2
	Minimum	53	42	36	23	29	40	24	40	20	15	12	5	33	15	8	9	10	20	12	15	26	21	16	11	− 5	− 2	− 3	− 7	10	7	− 5	17.1
Larimore	Maximum	52	60	72	63	83	52	61	80	74	53	41	50	48	53	51	48	54	50	50	46	47	45	40	20	20	24	17	29	37	34	33	48.0
	Minimum	40	39	42	30	36	37	23	40	23	14	18	10	36	20	15	19	12	24	19	22	30	34	12	12	− 5	− 5	0	− 6	15	26	12	20.8
Lisbon	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHenry	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKinney	Maximum	51	57	52	60	72	62	70	65	33	32	33	55	52	45	38	43	44	45	45	53	42	35	32	20	20	20	22	37	37	32	30	43.0
	Minimum	41	40	41	22	38	40	25	32	22	15	19	10	28	24	20	13	4	5	5	28	29	25	12	11	− 4	− 15	10	− 4	7	0	0	17.3
Maddock	Maximum	56	68	67	55	69	67	69	79	79	30	34	53	53	45	40	42	48	49	48	47	45	44	39	22	18	24	21	33	36	32	29	46.5
	Minimum	45	42	39	25	36	46	26	46	27	7	19	13	37	19	12	11	7	18	10	22	28	32	18	13	− 4	− 5	5	− 2	12	27	9	20.6
Marmarth	Maximum	70	62	50	56	68	72	74	77	56	40	41	61	52	46	38	50	60	40	38	35	35	40	25	15	15	15	13	31	34	34	30	44.4
	Minimum	43	40	40	30	36	42	32	39	15	1	25	41	32	29	28	14	23	20	25	20	21	25	15	5	1	− 5	− 1	7	15	14	14	22.1
Minot	Maximum	55	62	54	61	70	58	75	80	67	32	35	56	50	44	40	45	46	47	48	51	47	25	21	28	27	22	23	32	38	32	26	45.1
	Minimum	43	39	38	20	30	40	25	41	16	3	12	11	32	19	9	10	5	8	6	19	25	21	− 1	10	8	− 16	− 7	− 8	12	16	− 1	15.6
Mott	Maximum	63	77	62	61	76	74	74	80	48	37	43	62	47	43	36	33	36	40	37	36	38	36	25	28	17	13	16	34	35	34	28	44.2
	Minimum	33	38	38	40	42	40	43	44	26	0	26	20	35	32	24	21	25	20	26	28	30	16	15	10	− 9	6	− 3	− 9	11	15	9	22.1
Napoleon	Maximum	58	74	63	57	71	73	72	80	65	38	46	60	61	49	38	39	52	50	45	46	43	51	37	18	18	17	20	30	45	35	33	47.9
	Minimum	49	39	36	30	29	40	30	43	25	5	18	18	28	29	12	4	12	30	18	28	30	32	17	12	5	− 8	− 5	− 4	15	28	9	21.1
New England §§	Maximum	69	64	50	55	64	73	72	76	52	39	41	60	53	43	37	43	55	44	35	38	41	40	29	17	20	13	21	33	37	32	....	[a]44.9
	Minimum	44	39	41	25	28	35	32	33	23	1	5	25	23	29	28	11	13	24	25	25	27	29	15	10	8	9	− 3	− 6	14	20	11	20.3
New Salem	Maximum	70	66	50	70	73	69	47	81	62	32	60	62	58	42	39	59	57	45	51	45	45	42	33	28	23	15	21	31	34	31	31	47.7
	Minimum	42	45	41	44	49	44	30	44	32	4	30	22	36	20	22	22	18	27	19	28	29	27	20	7	7	− 10	− 3	− 6	10	21	6	23.5
Orange	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Park River	Maximum	55	60	69	71	70	67	62	82	80	31	36	59	47	49	44	46	50	49	48	49	46	49	38	32	21	26	22	31	39	34	33	47.6
	Minimum	46	36	40	32	33	42	25	40	28	15	13	12	37	18	15	18	28	24	12	17	31	30	18	16	8	0	6	1	18	26	14	22.5
Pembina §§	Maximum	66	56	58	71	51	56	84	46	42	42	48	46	42	40	48	47	42	48	58	42	56	30	32	34	32	30	28	34	28	36	35	45.5
	Minimum	36	38	38	34	38	30	29	41	42	18	16	14	30	24	14	16	10	12	10	18	20	30	16	16	10	4	14	4	18	28	8	21.4
Steele	Maximum	65	60	65	69	70	72	75	81	38	27	55	57	55	50	38	56	53	50	55	55	50	46	38	40	38	27	26	34	36	36	35	50.1
	Minimum	45	36	35	38	40	40	41	38	27	3	24	38	40	38	20	18	32	34	33	30	30	20	10	15	8	3	− 12	− 3	12	30	5	25.1
Towner	Maximum	55	56	56	56	70	65	73	80	72	31	33	53	49	45	40	44	44	48	49	47	47	32	32	18	20	23	25	28	26	30	28	44.6
	Minimum	48	40	40	25	35	48	30	44	22	11	21	13	35	25	18	14	11	15	12	16	28	31	15	12	− 1	− 10	3	8	7	3	6	20.2
Valley City	Maximum	55	74	59	59	68	62	64	78	66	34	42	51	56	51	45	47	39	53	47	44	41	46	30	21	18	21	17	30	38	32	32	46.8
	Minimum	46	43	35	39	43	50	32	49	29	9	21	11	34	27	15	13	12	34	19	31	32	34	20	9	6	2	2	− 4	15	27	12	24.1
Wahpeton	Maximum	68	75	64	62	61	68	63	77	46	38	48	52	61	57	43	48	54	55	45	45	42	52	30	26	19	20	22	30	40	36	28	47.3
	Minimum	46	42	37	45	42	35	50	41	19	25	15	30	30	16	16	20	33	21	39	34	35	27	25	13	− 9	3	5	20	33	21	14	26.2
Westhope	Maximum	70	73	70	73	68	70	70	65	63	58	60	62	60	60	55	46	47	47	51	55	43	35	20	20	20	22	22	46	40	43	40	50.8
	Minimum	32	38	36	36	30	34	32	32	22	18	28	30	21	22	18	12	9	12	11	25	23	12	14	5	− 1	− 7	− 5	9	14	16	8	18.9
Williston	Maximum	60	56	51	61	70	64	76	74	30	36	35	61	49	42	37	45	49	47	47	51	39	37	19	19	18	19	18	33	36	30	27	43.1
	Minimum	43	43	31	22	42	44	37	30	18	12	18	29	31	28	21	13	11	11	14	32	21	18	11	9	4	− 2	5	11	16	19	12	21.0
Willow City	Maximum	52	60	57	52	68	61	71	78	34	28	36	49	47	40	38	33	45	47	47	51	37	40	22	22	20	23	23	35	37	28	19	41.9
	Minimum	46	41	36	24	33	44	24	34	22	16	15	9	35	22	16	10	22	12	14	18	25	22	15	12	6	− 8	4	− 7	6	14	5	19.1
Zap	Maximum	67	69	52	60	70	69	75	84	42	38	36	62	49	44	38	45	54	48	42	48	41	44	28	17	24	17	26	37	39	32	28	46.0
	Minimum	49	40	38	21	30	38	28	42	19	0	22	21	32	25	19	12	13	18	12	30	30	26	13	13	1	− 18	− 2	− 7	5	20	5	19.2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Based on 850 records.
Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.

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WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

NOVEMBER, 1919

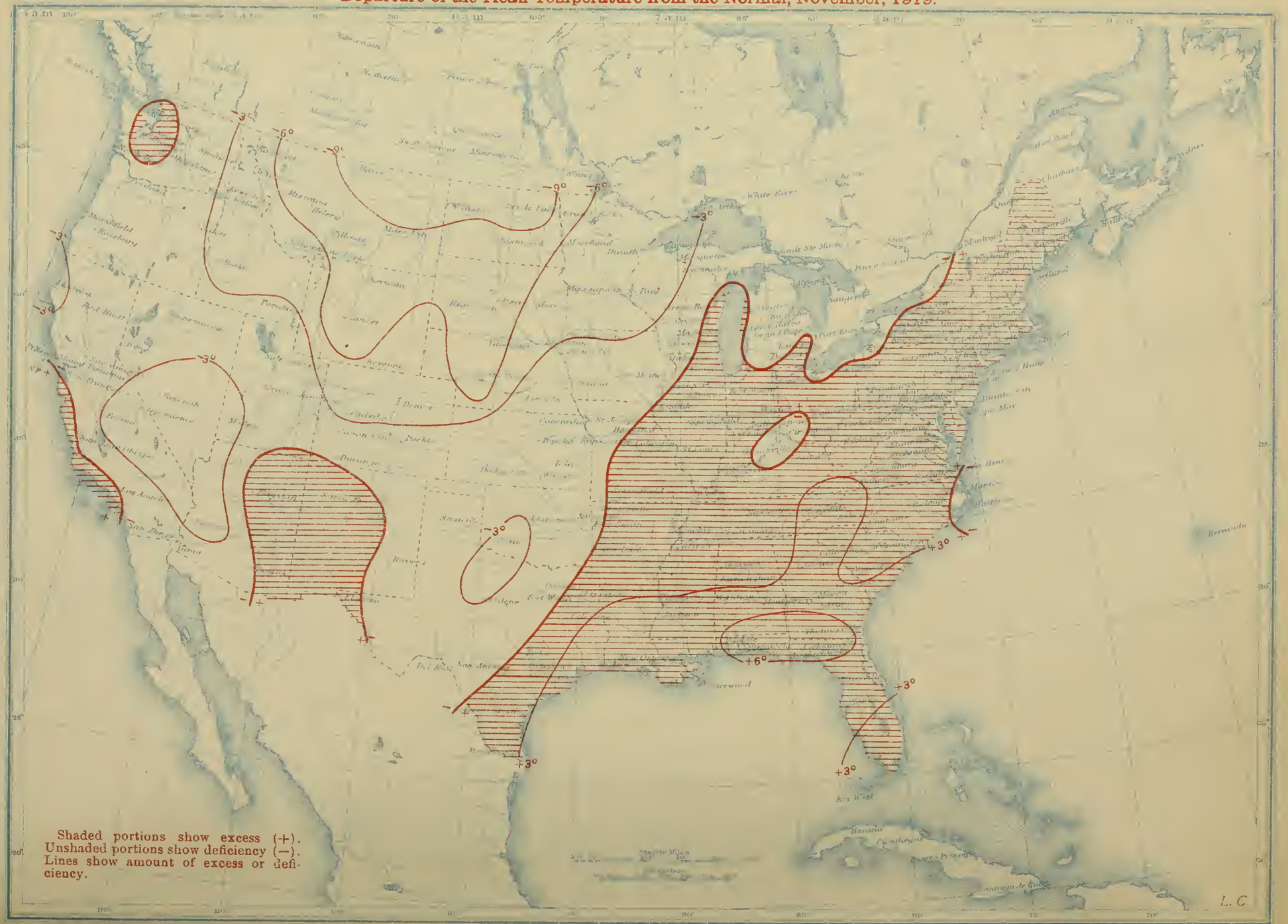
BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 31, 1919

Departure of the Mean Temperature from the Normal, November, 1919.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., NOVEMBER, 1919. No. 11.

GENERAL SUMMARY.

Excepting a warm, fair period from the 15th to the 23d, inclusive, the weather during the month was severely cold, with excessive snowfall. The bulk of the snowfall occurred during the first ten days of the month, the days of the heaviest falls being the 2d, 3d, 8th, 9th and 10th. The high winds and heavy snowfall of the 10th produced a partieularly severe storm in the eastern third of the State. The average depth of snow on the ground on the 15th was about 12 inches, but the warm wave which began on that date resulted in a rapid melting of the snow, and the western portion of the State was practieally cleared of snow by the 24th, but considerable amounts remained in the eastern portion, where the falls had been heavier. A cold wave on the 24th was followed by continued cold weather until the end of the month. The heavy snowfall and severe cold of the first half of the month resulted in mueh suffering to livestock on the western ranges, and large numbers were marketed on account of the scarcity of feed. The warm weather beginning on the 15th improved conditions decidedly by elearing the range of snow.

TEMPERATURE.

The mean temperature for the State was 15.6°, or 11.0° below the normal, and 13.3° lower than the mean for November, 1918. The highest mean reported was 21.0° at Bierman, Slope County; the lowest was 10.0° at Bowbells, Burke County. The highest temperature reported was 57° at Orange, Adams County, on the 24th; the lowest was -36° at Howard, Williams County, on the 27th. The greatest monthly range was 78° at Howard, Williams County; the least was 52° at McLeod, Ransom County. The greatest daily range was 48° at Orange, Adams County, on the 24th.

PRECIPITATION.

The average precipitation for the State was 1.16 inches, or 0.58 inch above the normal, and 0.12 inch more than the average for November, 1918. The greatest monthly amount reported was 3.40 inches at Larimore, Grand Forks County; the least was 0.13 inch at Donnybrook, Ward County. The greatest amount recorded in any twenty-four consecutive hours was 2.40 inches at Westhope, Bottineau County. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall for the State was 11.8 inches. —E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.						
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.18	30.85	26	29.58	24	57	7,678	10.7	40	nw.	10
Devils Lake	30.12	30.80	26	29.42	10	44	9,026	12.5	46	n.	10
Ellendale	30.13	30.77	26	29.26	10	56	11,394	15.8	66	nw.	10
Grand Forks	30.12	30.79	26	29.36	10	90	.....	.....	63	n.	10
Williston	30.14	30.86	26	29.49	24	48	6,260	8.7	36	e.	4
Moorhead, Minn	30.15	30.81	26	29.26	10	57	6,938	9.6	36	nw.	10
Averages or extremes.	30.14	30.86	26	29.26	10	.....	.....	11.5	66	nw.	10

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c.t.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	133.5	281.1	47	− 6	87	72	80	49	1
Devils Lake	145.9	278.2	52	+ 2	89	82	87	61	27
Ellendale	113.1	284.1	40	.....	89	.....	85	65	30
Grand Forks	.....	.....	.....	.....	89	.....	94	.....	.....
Williston	156.6	278.2	56	+10	86	72	76	66	1
Moorhead, Minn	.....	.....	.....	.....	86	.....	87	.....	.....
Averages or extremes	177.3	280.4	49	+ 2	88	75	85	49	1

* And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.81	+0.23	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	9	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919...	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.

Climatological Data for November, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	14.6	−12.7	42	20	−16	30	40	2.77	+2.31	1.00	27.7	8	12	5	13	n.	E. T. Carley.
Arnegard	McKenzie	.....	1	14.9	.....	44	18	−22	30	35	0.40	.....	0.20	4.0	3	15	12	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	20.3	−7.4	46	22	−15	30	31	1.00	+0.50	0.40	10.0	4	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. F. Yunker.
Berthold Agency†‡	McLean	2,082	25	17.6	−11.2	48	16†	−20	30	33	0.46	−0.05	0.35	4.1	4	17	5	8	nw.	C. L. Hall.
Bierman	Slope	3	21.0	.....	48	17†	−12	27	34	1.12	.....	0.30	11.8	7	14	2	14	sw.	E. F. Bierman.	
Bismarck	Burleigh	1,674	45	18.2	−7.8	49	22	−14	30	33	0.92	+0.24	0.71	11.7	4	8	8	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	11.0	−12.6	40	16	−22	30	38	0.40	−0.15	0.14	.....	8	.....	.....	.....	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	10.0	.....	40	19	−27	30	41	0.91	.....	0.85	.....	2	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	19.0	.....	46	18	− 9	12	32	0.62	.....	0.34	9.6	6	5	8	17	nw.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	38	18	.....	.....	.....	0.67	+0.21	0.39	.....	2	.....	.....	.....	ne.	J. M. Russell.
Carson	Grant	2,500	7	15.5	.....	40	21†	−14	30	29	1.10	.....	0.60	11.0	5	9	5	16	nw.	J. W. Evens.
Colgate	Steele	1,177	5	15.6[d]	.....	42[d]	16†	−15[d]	27	34[d]	2.00	.....	1.50	20.0	4	12	11	7	nw.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	1.70	+1.32	1.00	18.0	4	15	8	7	w.	S. Friswold.
Crosby	Divide	1,954	12	13.5	−14.3	40	16†	−20	30	26	0.34	−0.51	0.34	3.4	1	14	10	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	12.8	−9.8	39	21	−20	30	31	1.01	+0.30	0.30	14.9	8	8	7	15	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	19.8	−8.8	46[a]	19	−10	12	37	0.34	−0.17	0.12	.....	7	.....	.....	.....	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	13.2[a]	−15.6	45	17	−27	30	42	0.13	−0.47	0.13	2.0	1	.....	.....	.....	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	17.6	.....	48	17†	−20	30	40	0.43	.....	0.35	4.0	2	14	7	9	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	12.9	−13.3	48	16	−24	30	33	0.35	−0.06	0.35	3.5	1	16	5	9	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	10.8	−15.5	39	17	−26	30	33	0.96	+0.49	0.52	9.0	4	15	4	11	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	19.1	−11.3	47	22	−14	30	35	0.43	+0.12	0.16	.....	6	2	10	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	18.5	.....	50	22	−12	13	34	0.95	+0.25	0.64	12.2	6	2	13	15	nw.	U. S. Weather Bureau.
Energy†‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.48	.....	0.28	.....	3	1	21	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	1.66	+1.32	0.70	17.0	5	17	5	8	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	14.8	.....	45	22	−23	30	34	1.50	.....	0.70	14.5	6	11	5	14	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. T. Denk.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.62	.....	0.28	6.2	4	3	20	7	se.	Verne King.
Fullerton	Dickey	1,439	21	19.4	−10.3	48	22	−13	30	31	1.89	+1.31	1.15	18.9	6	9	5	16	nw.	F. O. Alin.
Garrison	McLean	1,901	24	16.6	−10.4	47	17	−20	30	28	0.31	−0.29	0.31	3.0	1	9	8	13	nw.	G. L. Robinson.
Grafton	Walsh	827	27	14.2	−9.8	42	17	−27[a]	26	41[a]	2.04	+1.45	1.02	23.6	6	12	2	16	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	12.1	−14.0	40	17	−24	26	40	2.25	+1.63	0.97	23.9	9	15	7	8	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. E. Pooley.
Granville	McHenry	1,504	12	15.7	−10.4	42	22	−21	30	35	1.92	+1.50	0.80	19.0	6	16	7	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	12.2	−8.2	37	17	−26	30	38	1.70	+1.11	0.60	17.0	5	9	11	10	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	12.0[a]	−13.9	43[a]	17	−26[a]	30	40[a]	1.11	+0.70	0.33	10.4	6	9	11	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	20.2	−13.2	47	23†	− 8	12	39	0.50	+0.16	0.40	5.0	2	19	1	10	nw.	U. J. Downey.
Hillsboro	Traill	901	13	15.2	−13.6	40	17	−18	26	35	2.12	+1.42	1.00	21.2	7	4	19	7	n.	F. E. Mayall.
Howard†‡	Williams	2,275	12	12.6	−15.1	42	22	−36	27	40	0.20	−0.35	0.20	2.0	1	19	5	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	17.9	−9.7	45	22	−16	30	30	1.55	+0.88	1.00	15.5	3	10	3	17	nw	S. Calvelage.
Lakota	Nelson	1,579	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Pettes.
Lamoine	Kidder	1,936	11	15.7[a]	−11.3	42[a]	16	−21[a]	30	27[a]	1.00	+0.46	.....	10.0	5	.....	.....	.....	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	11.0	−14.7	40	16†	−25	30	35	1.92	+1.33	1.20	19.2	6	17	6	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	14.6	−11.2	41	17†	−20	26	34	3.40	+2.85	1.20	34.0	6	11	4	15	n.	Reuben Gray.
Linton	Emmons	1,711	1	15.4	.....	41	17	−15	30	32	0.80	.....	0.40	8.0	4	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	20.6	−9.6	43	21	−12	12†	36	2.90	+2.42	1.80	29.0	3	.....	.....	.....	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	1.25	.....	0.40	12.5	6	5	8	17	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	12.0	−12.6	42	16	−24	30	42	0.50	−0.13	0.40	5.0	2	6	20	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	19.2	.....	42	22	−10	13†	31	2.17	.....	1.24	.....	6	20	2	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	15.2	.....	40	22	−22	30	38	0.75	.....	0.37	.....	3	6	10	14	nw.	A. T. Felland.
Mandan	Morton	1,644	5	18.0	.....	48	22	−16	30	43	1.19	.....	0.91	.....	6	.....	.....	.....	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	14.5	−14.5	41	22	−20	30	34	1.12	+0.47	0.35	11.5	7	9	10	11	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	20.0	−14.0	47	18	− 9	12†	29	0.76	+0.49	0.48	8.1	7	7	7	16	w.	S. P. Grane.
Mayville	Traill	975	23	16.6	−12.7	41	17	−19	26	39	1.94	+1.32	0.60	.....	8	11	7	12	nw.	W. C. Gould.
Melville	Foster	1,590	21	16.9[a]	−12.1	38[a]	18	−20	30	30	1.60	+1.18	.....	16.0	6	7	8	15	nw.	J. P. Kidder.
Minot	Ward	1,557	23	12.6	−17.1	45	16	−26	30	39	1.25	+0.66	1.20	12.5	2	4	21	5	e.	W. I. Faris.
Minto	Walsh	820	26	13.7	−10.8	43	17	−27	26	41	2.68	+2.14	.....	.....	8	18	3	9	n.	C. M. Evans.
Mott	Hettinger	2,424	12	16.3	−14.9	43	17†	−10	12†	34	0.86	+0.42	0.46	8.5	5	7	10	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	16.8	−9.8	48	22	−20	30	35	0.30	−0.32	0.20	3.0	2	12	1	17	sw.	C. J. Hoof.
New England	Hettinger	2,400	25	19.4	−10.8	46[a]	22	−10[a]	30	38[a]	0.60	+0.10	0.40	6.0	4	.....	.....	.....	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Christiansen.
Orange†‡	Adams	2,586	10	20.3	−13.1	57	24	− 8	11†	48	0.60	+0.20	0.60	6.0	1	10	10	10	nw.	T. F. Young.
Park River	Walsh	998	15	15.4	−12.6	42	17	−19	30	40	1.49	+0.75	0.40	.....	7	14	6	10	nw.	C. B. Wright.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	11.2	−11.5	48	16	−26	26†	44	1.66	+0.97	0.60	14.0	7	.....	.....	.....	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	15.6	.....	44	22	−21	30	31	1.20	.....	0.50	12.0	4	8	7	15	nw.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	1.42	+0.83	0.70	13.0	6	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.20	5.5	5	2	11	17	nw.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.28	−0.25	0.20	2.5	2	7	12	11	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	17.2	−11.2	47	22	−15	30	35	0.50	−0.04	0.07	3.2	9	12	7	11	nw.	H. S. Wood.
Taylor	Stark	2,493	3	11.8	.....	44	22	−28	30	46	0.44	.....	7.18	.....	6	10	6	14	nw.	H. Leutz.
Towner	McHenry	1,482	17	12.2	−12.8	38	17	−23	30	33	1.20	+0.75	0.60	12.0	2	13	4	13	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	15.4	.....	44	22	−20	30	31	0.90	.....	0.75	6.0	2	10	10	10	nw.	A. T. Anderson.
Valley City	Barnes	1,245	1	16.2	−13.5	40	17†	−18	26	35	1.65	+1.13	0.80	16.5	4	18	5	7	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	18.9	−9.4	43	20†	−14	30	39	1.75	+1.12	1.25	9.0	5	9	13	8	nw.	G. C. Morehart.
Walhalla	Pembina	966	12	14.8	−12.3	46	16	−24	26	38	1.00	+0.46	0.60	10.0	2	22	0	8	n.	Ivan Lee.
Washburn	McLean	1,734	20	19.2	−11.1	50	23	−17	30	29	0.97	+0.35	0.55	10.0	5	9	11	10	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	10.8	−16.0	42	1†	−30	30	41	2.40	+1.95	2.40	24.0	1	5	9	16	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	15.0	−10.2	48	16	−20	30	34	0.46	−0.14	0.29	3.8	5	8	14	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	11.6	−10.5	39	16	−23	30	33	1.00	+0.56	0.40	10.0	4	8	9	13	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Crandall.
Moorhead, Minn.	Clay	935	38	17.4	−7.0	44	17	−14	30	31	1.92	+0.94	1.24	18.4	9	14	4	12	n.	U. S. Weather Bureau.
Averages		.....	.....	15.6	−11.0	57	24	−36	27	48	1.16	+0.58	2.40	11.8	5	11	8	11	nw.	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1919.

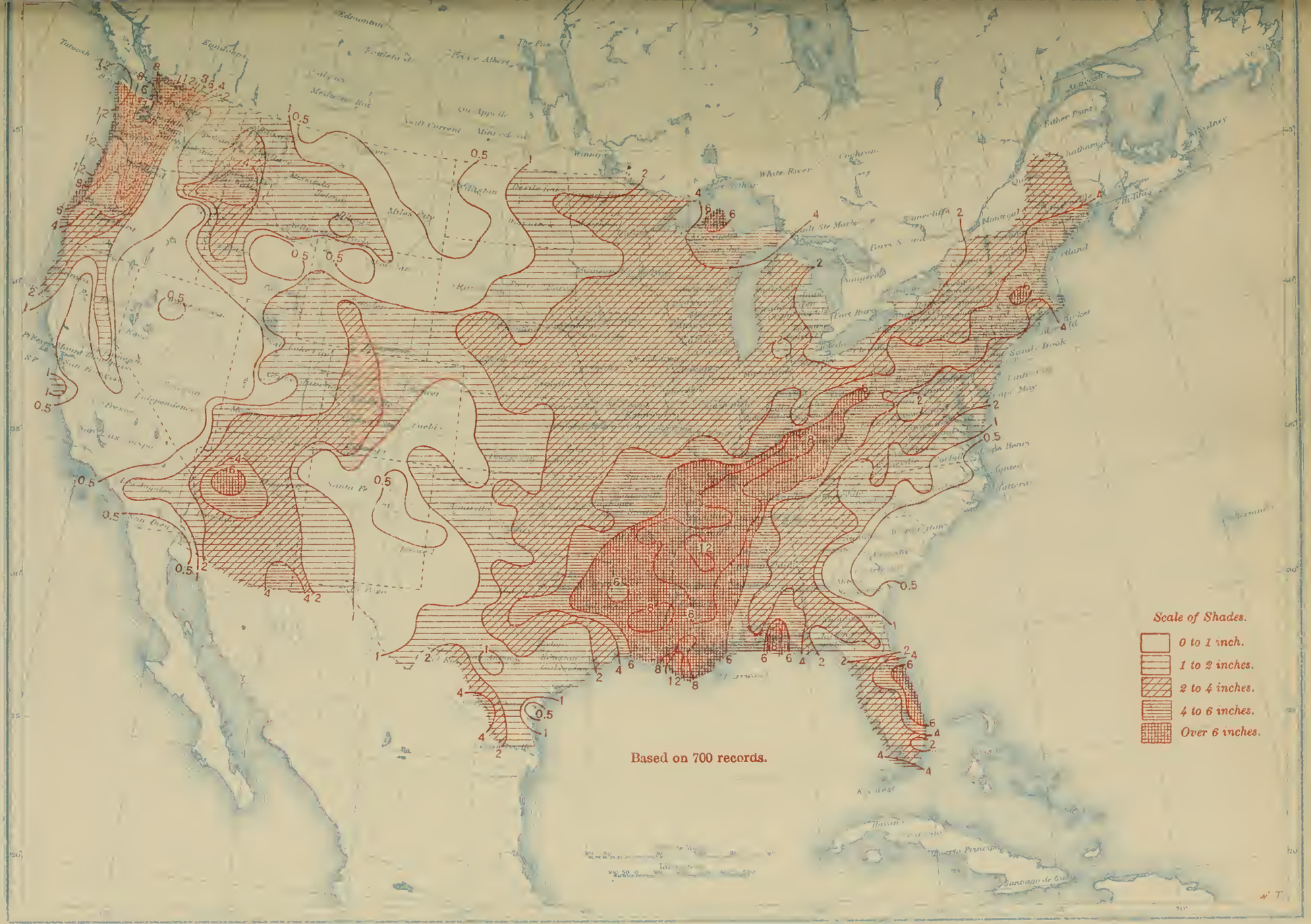
Stations.	Watersheds.	Day of Month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red	.10	.30	T.					.50	.60	1.00	.20													.02					.05			2.77
Arnegard	Missouri		.20	.10		.10																											0.40
Ashley	Missouri			.20					.20	.20	.40																						1.00
Beach	Lit. Missouri																																
Berthold Agency	Missouri		.35								.07															.02	.02						0.46
Bierman	Lit. Missouri			.20	.10			.20		.20	.30	.10													.02	T.	T.						1.12
Bismarck ***	Missouri		.09	.04	.08				.71	T.															T.		T.			T.			0.92
Bottineau	Mouse		.03	.14	.11	.05			.03			.01	T.												T.	.02				.01			0.40
Bowbells ‖ ‖	Mouse			.85																					.06								0.91
Bowman	Grand		.13	.03	.08	T.	T.			.34		.02															.02						0.62
Bando	Sheyenne			.39	.28																												0.67
Carson	Heart		.05	.20	.05				.60	.20																							1.10
Colgate	Sheyenne	.20		.10				.20			1.50																						2.00
Cooperstown	Sheyenne		.35	.05						.30	1.00																		T.	T.			1.70
Crosby	Mouse		.34																														0.34
Devils Lake ***	Sheyenne	T.	.18	.21		T.		T.	.06	.02	.28	.05													.20					.01			1.01
Dickinson	Heart		.06	.02	.01	.07			.12	.04																.02							0.34
Donnybrook	Mouse			.13	T.																												0.13
Dunn Center	Knife	.35		.08	T.																					T.							0.43
Dunseith	Mouse		T.	.35																					T.								0.35
Eckman	Mouse		.20	.56		T.																			.10					.10			0.96
Edgeley	James		.04	.03					.13	.06	.16	.01																					0.43
Ellendale***	James		T.	.07					.13	.26	.47	.01													T.		T.		T.	.01			0.95
Energy	Missouri		.15	.28	T.	T.		T.	.05	T.		T.													T.								0.48
Epping	Missouri		.70	.40	.30						.16	.10																					1.66
Fessenden	James		.70	.20		T.		T.	.25	.10															.15					.10			1.50
Forman	Sheyenne																																
Fryburg	Lit. Missouri		.19	.11	.28																					.04							0.62
Fullerton	James		.04	.20				T.	.16	.30	1.15	.04																					1.89
Garrison	Missouri		.31		T.			T.	T.																T.	T.				T.			0.31
Grafton	Red		.04	.51					1.02	.18															.22			.07					2.04
Grand Forks ***	Red		.01	.32		.01			.11	.35	.78					T.									.57				.02	.08			2.25
Granville	Mouse		.80	.60		.30			.02																.10						.10		1.92
Hannah	Pembina		.20	.60							.50														.30					.10			1.70
Hansboro	Red		.30	.25		.01			.03			.20													.33								1.12
Hettinger	Grand			T.	T.				.40		.10															T.	T.						0.50
Hillsboro	Red		.30	.30	T.					.20	1.00	.20													.02					.10			2.12
Howard	Missouri	T.	.20	T.	T.																												0.20
Jamestown	James		.15	.40						1.00																							1.55
Lakota	Sheyenne																																
Lamoine	Missouri			*					*		*	*	1.00												T.	T.							1.00
Langdon	Pembina		.10						.30		1.20	.02													.20					.10			1.92
Larimore	Red		.20	1.00						.40	1.20														.30					.30			3.40
Linton	Missouri								.10	.20		.40													.10								0.80
Lisbon	Sheyenne								.10	1.00	1.80																		T.	T.			2.90
McClusky	Missouri		.20	.40	.15				.40														.05							.05			1.25
McHenry	James																																
McKinney	Mouse			.40																						.10							0.50
McLeod	Sheyenne		.40	.13					*	.40	*	1.24																					2.17
Maddock	Sheyenne		T.	.27					T.		.37														.11								0.75
Mandan ‖	Missouri		.05	.06	.01	.06			.10	.91																							1.19
Manfred	Sheyenne		.12	.25		T.		T.	.35	.15	.10														.10					.05			1.12
Marmarth	Lit. Missouri		.11	.03	T.				.48		.02	.01													T.	.09	.02						0.76
Mayville	Red		.20	.25			.04			.20	.60	.25																	.35		.05		1.94
Melville	James		.40	.20					*	*	*	1.00													T.								1.60
Minot	Mouse			1.20																				.05									1.25
Minto	Red			.54		.05			*	*	*	1.29				T.									.74					.06			2.68
Mott	Cannon Ball			.10	.16				.46			.09														.05							0.86
Napoleon	Missouri			.10					.20																								0.30
New England ‖ ‖	Cannon Ball		.10		.05	T.				.40																.05							0.60
New Salem	Heart																																
Orange	Cannon Ball				.60																												0.60
Park River	Red		.08	.38		.06			.29	.08	.40	T.													.20					T.			1.49
Parshall	Missouri																																
Pembina ‖ ‖	Red	.10									.60						.06	.18		.02					.10					.60			1.66
Pettibone	James		.10	.20						.50	.40														T.					T.			1.20
Power	Missouri	T.	.10	.30					.12	*	.70	.10													.10								1.42
Powers Lake	Sheyenne		.20	.10		T.						.15													T.	T.		.10					0.55
Selfridge	Missouri			.18	T.				.20	T.	T.	T.																					0.28
Sherwood	Mouse																																
Steele	Missouri		.06		.04	.07	.06	T.	.06	.07	.04														.06		.04						0.50
Taylor	Heart		.07	.06	.02				.18		.10														.01		T.						0.44
Towner	Mouse		.60	.60																													1.20
Turtle Lake	Missouri		.75	.15	T.				T.	T.															T.					T.			0.90
Valley City	Sheyenne		.20							.15	.50	.80													T.								1.65
Wahpeton ‖ ‖	Red		.17						.27	*	1.25	T.									T.								.06				1.75
Walhalla	Pembina		.40								.60																						1.00
Washburn	Missouri		.30	.05	.02				.55	.05																							0.97
Westhope	Mouse	2.40																															2.40
Williston ***	Missouri	.07	.25	.04	.08				T.		T.	T.													T.	.02							0.46
Willow City	Mouse		.40	.40		.10																			.10					T.			1.00
Zap	Knife																																
Moorhead, Minn ***	Red		.16	.09					.08	.26	1.18	.06													.03				.02	.04			1.92

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	35	27	26	34	31	34	37	22	17	13	4	17	27	37	38	38	37	38	34	42	37	23	23	24	17	-1	14	10	3	-3	....	24.6
	Minimum	19	26	-5	5	6	-4	-3	15	13	2	-1	-14	-12	0	21	23	18	13	29	24	23	27	11	-13	-14	-11	-12	-13	-12	-16	....	4.5
Ashley	Maximum	39	32	28	19	33	29	28	33	32	15	10	5	22	15	35	42	44	40	42	40	41	46	39	....	....	....	....	15	11	4	....	[d]28.4
	Minimum	13	21	16	-3	15	3	15	27	14	10	0	-6	-9	-10	10	27	33	32	25	28	20	32	28	....	....	....	....	-6	-3	-15	....	[d]12.2
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Berthold Agency	Maximum	35	22	31	18	31	21	38	31	16	15	10	8	23	30	46	48	48	47	42	41	44	47	38	35	8	6	11	18	16	5	....	27.6
	Minimum	9	16	0	-1	8	13	5	9	-2	-2	-2	-6	-12	-6	16	27	32	26	25	26	18	34	28	5	-1	-8	-14	0	3	-20	....	7.5
Bismarck	Maximum	37	26	25	22	32	20	30	31	18	14	7	6	24	23	42	44	46	42	42	38	44	49	40	35	2	5	14	19	12	-2	....	26.2
	Minimum	16	18	15	4	13	-2	7	14	11	6	1	-6	-6	-6	14	36	29	28	25	26	22	34	30	2	-3	-6	-5	4	-4	-14	....	10.1
Bottineau	Maximum	21	22	18	18	26	17	27	26	16	14	10	1	9	23	33	40	39	34	35	36	36	38	30	20	-2	2	7	16	9	-3	....	20.0
	Minimum	-2	7	13	-2	9	-9	-4	13	-1	10	0	-3	-16	-13	-5	17	26	19	21	21	12	13	20	-2	-11	-17	-18	-11	-3	-22	....	2.1
Bowbells §§	Maximum	22	18	19	20	18	23	21	20	10	11	7	8	12	24	38	29	39	37	40	35	39	38	32	19	-4	5	10	15	9	-2	....	20.4
	Minimum	-4	8	-8	-1	-8	-10	8	-3	-11	-10	-9	-12	-10	-13	-3	22	14	20	23	22	16	23	19	-4	-12	-19	-10	-9	-2	-27	....	-0.3
Carson	Maximum	32	30	25	20	20	25	25	25	14	12	6	-2	12	20	36	38	38	35	32	33	40	40	40	33	10	10	6	5	1	0	....	22.0
	Minimum	15	15	7	2	18	-4	8	14	7	-1	-5	-9	-5	-1	16	32	31	29	25	24	20	30	28	7	-2	-8	-8	0	0	-14	....	9.0
Crosby	Maximum	24	18	15	16	26	10	21	18	14	11	5	5	11	20	35	40	39	38	36	40	39	33	30	29	10	3	11	15	13	-3	....	20.7
	Minimum	12	13	3	9	4	-4	0	3	-11	-4	1	-9	1	-6	16	32	34	27	29	21	32	27	10	5	-6	-9	-10	-5	-6	-20	....	6.3
Devils Lake	Maximum	23	22	21	12	29	14	29	33	13	13	8	3	13	21	36	38	38	29	36	34	39	38	33	14	-6	4	10	16	11	-5	....	20.6
	Minimum	11	13	-2	-12	11	-3	4	13	10	7	0	-10	-11	-10	17	26	27	15	20	28	18	32	14	-7	-16	-17	-9	1	-5	-20	....	5.0
Dickinson	Maximum	36	31	27	30	30	21	30	20	17	15	4	10	22	33	41	42	42	45	46	37	40	45	41	39	32	10	10	20	10	....	....	[a]28.0
	Minimum	16	23	15	0	20	-2	10	10	5	-4	-1	-10	-4	-4	23	33	35	28	28	28	20	31	32	32	0	-1	-1	-5	-5	0	....	11.7
Donnybrook	Maximum	23	22	20	30	25	32	25	12	10	10	8	11	15	33	38	43	45	40	44	35	....	37	27	5	10	6	18	8	8	7	....	[a]22.3
	Minimum	5	14	10	9	-8	10	9	-14	-4	-3	-5	-6	-8	-9	9	28	35	30	25	27	....	27	-8	-13	-10	-3	5	-5	-5	-27	....	[a] 4.0
Dunseith	Maximum	23	20	21	15	26	21	26	28	18	11	11	9	15	15	31	48	46	35	35	35	35	42	37	24	4	10	5	14	10	5	....	22.5
	Minimum	3	8	10	-4	7	-6	0	15	3	6	-1	-4	-18	-12	10	21	30	22	19	23	14	29	20	4	-15	-23	-17	-8	-14	-24	....	3.3
Edgeley	Maximum	39	31	26	20	35	31	28	33	33	19	13	6	20	19	40	41	43	38	40	38	42	47	39	31	15	4	10	27	12	12	....	27.7
	Minimum	16	20	19	-1	14	6	7	27	14	12	1	-5	-2	-10	5	23	34	18	20	30	25	35	30	13	-8	-9	-4	4	-4	-14	....	10.5
Ellendale	Maximum	41	34	29	20	35	27	33	37	27	17	9	5	22	9	34	42	45	34	40	39	43	50	38	32	3	6	11	14	13	0	....	26.3
	Minimum	14	24	13	4	19	9	10	27	16	9	4	-8	-12	-8	6	22	32	25	22	32	25	33	28	2	-5	-5	-1	-1	-3	-11	....	10.7
Fessenden	Maximum	30	23	23	15	34	20	29	31	20	20	10	10	18	18	40	43	43	34	40	36	40	45	35	29	2	3	12	18	11	12	....	24.8
	Minimum	5	12	14	-15	8	-5	5	17	7	7	-5	-7	-16	-10	10	28	30	25	20	24	17	31	25	1	-13	-14	-15	-2	-3	-23	....	4.9
Forman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fullerton	Maximum	40	30	28	19	35	32	32	37	32	18	10	6	20	13	34	40	43	35	39	40	41	48	36	32	19	5	13	15	15	5	....	27.1
	Minimum	15	23	14	2	16	8	9	30	16	10	4	-4	-11	-8	5	23	34	27	24	33	25	34	26	19	-7	-7	-2	5	-3	-13	....	11.6
Garrison	Maximum	24	22	21	15	30	28	28	28	16	12	9	5	15	22	40	44	47	41	38	38	40	45	40	32	7	6	12	18	15	4	....	24.7
	Minimum	9	12	12	6	13	5	7	13	2	2	-5	-9	-10	-6	16	29	33	28	25	28	22	31	28	5	-5	-6	-11	0	1	-20	....	8.5
Grafton	Maximum	30	28	25	20	29	30	28	33	33	30	26	10	11	9	30	38	42	40	34	35	36	39	37	17	15	0	6	13	9	6	....	24.6
	Minimum	-1	13	20	-9	18	-1	-13	27	10	10	0	-17	2	-10	-5	22	32	13	9	25	17	20	16	-5	-16	-27	-12	....	-11	-18	....	[a] 3.8
Grand Forks	Maximum	29	28	26	11	33	28	32	35	20	21	11	11	10	5	28	34	40	32	36	38	38	38	34	16	-8	-2	6	13	7	-8	....	21.4
	Minimum	5	14	2	-11	11	-8	-8	20	13	11	1	-7	-16	-17	5	22	32	9	16	30	22	33	12	-8	-23	-24	-16	-4	-11	-21	....	2.8
Granville	Maximum	22	22	22	18	30	19	30	28	18	20	18	5	15	41	40	40	40	35	38	37	40	42	35	30	18	8	18	19	20	-3	....	25.5
	Minimum	10	12	12	-18	12	-5	-5	14	-12	-8	-2	-12	-17	27	18	28	23	25	23	19	30	33	25	3	-8	-14	-8	0	-8	-21	....	5.9
Hannah	Maximum	22	20	20	18	23	28	30	25	20	18	17	16	18	22	32	35	37	35	34	38	34	34	32	21	18	17	19	20	12	3	....	23.7
	Minimum	-1	-3	0	-16	-1	-4	6	7	-4	-6	0	-9	-18	1	9	20	21	18	20	17	15	19	15	8	-21	-22	-19	-5	3	-26	....	0.8
Hansboro	Maximum	22	21	22	15	28	26	26	30	12	10	14	10	10	13	37	....	43	37	34	35	35	40	38	22	20	12	10	15	10	-1	....	[a]23.7
	Minimum	3	3	12	-13	7	-7	7	12	4	4	0	-4	-18	-10	0	....	18	13	16	20	14	28	17	-10	-20	-22	-10	-10	-5	-26	....	[a] 0.3
Hettinger	Maximum	42	41	34	24	34	34	30	28	22	11	12	12	28	28	36	40	38	46	41	44	44	42	47	47	28	18	8	13	18	13	....	30.1
	Minimum	22	21	5	0	5	0	18	14	8	-2	-3	-8	-3	20	21	32	28	28	24	20	22	21	31	8	-2	-4	-6	-3	0	-6	....	10.4
Howard	Maximum	24	20	10	27	22	14	22	18	14	12	8	6	14	27	37	40	40	40	41	38	37	42	40	37	15	4	4	10	9	0	....	22.4
	Minimum	0	-4	-9	8	-3	-9	8	-6	-11	-8	-8	-14	-8	-3	22	31	31	29	28	26	20	28	26	15	-4	-15	-36	-10	-10	-26	....	2.9
Jamestown	Maximum	33	26	25	18	34	26	30	34	30	18	12	6	19	13	39	39	44	41	39	37	44	45	37	32	6	3	12	17	12	6	....	25.9
	Minimum	12	17	17	-3	12	0	2	28	14	11	0	-2	-11	-8	6	33	35	28	22	29	24	36	27	6	-16	-11	-5	8	-3	-16	....	9.9
Lakota	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lamoine	Maximum	28	28	....	14	31	22	28	28	18	20	10	6	16	37	39	42	40	35	38	36	34	40	34	29	5	0	3	14	10	4	....	[a]23.3
	Minimum	8	12	....	7	11	-2	1	8	6	8	-3	6	-10	10	28	30	30	25	24	24	25	25	24	5	-9	-11	-12	2	-1	-21	....	[a] 8.1
Langdon	Maximum	23	22	20	20	27	25	30	33	22	17	11	11	11	15	32	40	40	25	35	36	40	36	20	15	5	3	9	14	15	6	....	22.0
	Minimum	2	10	7	-10	-5	5	15	20	-5	6	-5	-2	-20	-20	5	7	25	14	12	20	11	15	15	5	-20	-23	-16	-8	0	-25	....	0.0
Larimore	Maximum	30	26	27	15	30	25	30	35	22	15	11	13	15	11	37	38	41	35	35	37	37	41	37	23	3	0	10	15	10	0	....	23.5
	Minimum	12	15	12	-5	11	1	-4	22	10	9	-1	-6	-12	-15	3	28	32	15	15	25	20	32	22	0	16	-20	-8	0	-10	-19	....	5.6
Lisbon	Maximum	31	30	27	30	29	30	33	38	32	28	24	22	26	30	35	39	37	38	40	37	43	42	32	31	24	26	23	21	16	15	....	30.3
	Minimum	16	10	12	8	12	10	16	27	24	18	-7	-12	12	18	21	23	18	20	24	27	23	31	20	10	-5	-10	-12	-9	-6	-7	....	10.9
McHenry	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
McKinney	Maximum	25	20	20	10	29	15	26	26	10	10	11	5	10	21	38	42	40	35	36	36	37	40	36	35	5	1	-5	12	10	0	....	21.2
	Minimum	0	11	10	-22	9	-9	-10	9	-17	-6	-10	-8	-19	-22	18	32	30	23	23	33	18	32	20	3	-9	-18	-10	-5	0	-24	....	2.7
Maddock	Maximum	22	22	22	18	29	22	29	30	29	14	13	7	13	18	37	38	39	35	36	34	38	40	36	27	4	3	27	16	14	5	....	23.9
	Minimum	5	13	16	-13	8	-5	0	27	10	-1	-1	0	-13	-12	11	28	32	21	22	27	19	30	23	3	-12	-14	-11	2	1	-22	....	6.5
Marmarth	Maximum	37	37	33	24	35	25	33	26	18	17	8	12	26	33	42	41	46	47	46	46	40	43	42	40	12	2	6	10	20	2	....	28.3
	Minimum	18	25	4	2	15	13	17	11	-4	2	-1	-9	-1	7	22	33	32	27	29	29	22	34	30	12	1	-4	-9	-6	2	-6	....	11.6
Minot	Maximum	22	20	22	14	31	27	28	30	11	11	10	3	17	25	42	45	43	40	42	37	40	43	36	30	4	2	10	20	13	-5	....	23.8
	Minimum	11	8	0	-23	9	-9	1	-7	-13	-4	-6	-10	-14	-14	16	28	28	20	22	21	17	25	21	-4	-11	-19	-12	-5	-5	-26	....	1.5
Mott	Maximum	35	24	15	22	34	26	29	25	15	11	7	13	25	30	33	39	43	42	43	39	35	40	36	34	2	4	9	20	10	0	....	24.7
	Minimum	14	12	10	-2	15	-2	18	10	9	-2	-6	-10	-9	5	11	19	23	26	28	27	22	29	20	2	-2	-5	-9	-2	-5	-10	....	7.9
Napoleon	Maximum	35	28	26	18	34	28	28	33	26	14	10	5	20	17	36	41	42	38	43	38	40	48	38	40	17	3	10	15	10	-5	....	25.9
	Minimum	11	18	16	-12	14	-4	4	25	10	8	-4	-10	-15	-12	17	26	30	24	24	27	17	30	25	17	-10	-12	-8	0	-5	-20	....	7.7
New England §§	Maximum	36	36	18	27	31	21	31	21	19	14	4	16	26	35	41	40	40	44	38	32	42	46	43	40	33	7	20	18	8	....	....	[a]28.5
	Minimum	13	16	15	-3	13	-1	-1	19	5	-4	0	-8	-7	-1	3	28	33	28	29	28	22	30	32	33	1	-4	-5	1	0	-10	....	10.2
New Salem	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Orange	Maximum	41	45	36	24	36	24	30	29	16	10	11	24	29	31	49	42	45	48	36	38	42	49	46	57	9	1	7	12	19	4	....	29.7
	Minimum	10	25	10	4	15	2	12	10	8	-4	-8	-2	4	14	22	18	29	31	26	25	20	35	33	9	-2	-5	-6	0	-1	-8	....	10.9
Park River	Maximum	35	33	24	28	30	31	20	34	26	20	18	12	12	8	38	40	42	39	33	36	38	40	38	19	4	5	7	16	12	11	....	25.3
	Minimum	10	6	20	18	14	4	-3	19	10	6	2	0	10	-14	-2	8	34	16	13	13	26	23	18	3	-15	-18	-8	4	-14	-19	....	5.5
Pembina §§	Maximum	24	32	12	30	12	30	34	30	22	12	10	2	2	30	38	48	34	34	35	32	32	32	26	16	8	6	6	12	6	4	....	20.4
	Minimum	10	12	8	-12	6	2	12	12	8	10	0	-4	-12	-14	4	10	34	4	8	8	10	16	8	6	-25	-26	-12	4	-4	-26	....	1.9
Steele	Maximum	35	35	27	20	35	27	35	43	32	14	8	10	18	17	37	45	44	45	43	45	42	47	42	32	0	5	13	8	5	0	....	27.0
	Minimum	10	20	8	8	10	5	10	14	10	-3	-3	-5	-8	-9	2	15	15	24	27	27	27	32	28	0	-10	-8	-5	-8	0	-15	....	7.3
Towner	Maximum	21	21	22	13	30	16	28	28	18	14	11	7	11	17	36	37	38	35	36	35	37	36	34	30	3	10	8	15	1	-4	....	21.5
	Minimum	5	10	13	20	-1	-7	-4	17	13	4	1	-5	15	-9	13	25	23	12	22	21	14	25	23	3	-8	-11	-15	-5	-4	-23	....	3.0
Valley City	Maximum	32	26	34	26	31	29	27	32	32	17	12	7	9	10	34	36	40	34	36	36	39	40	36	27	10	7	9	13	11	6	....	24.6
	Minimum	14	17	12	9	9	-2	6	27	12	10	-2	3	-11	-11	6	28	32	22	22	30	23	32	21	9	-13	-18	9	6	3	-16	....	7.8
Wahpeton	Maximum	40	32	32	33	36	24	35	38	32	32	10	10	18	16	37	38	42	40	36	43	42	43	33	31	0	4	10	12	13	-4	....	26.9
	Minimum	22	22	0	7	20	4	24	26	23	-1	2	8	-10	6	16	26	22	14	34	31	30	29	20	-7	-7	-2	4	0	-6	-14	....	10.9
Westhope	Maximum	42	26	20	29	24	20	23	26	21	11	8	1	10	15	34	42	37	36	37	36	38	36	28	24	5	5	8	10	15	-2	....	22.2
	Minimum	18	12	12	-2	-10	-12	-10	-3	-20	6	1	-12	-18	-16	-8	20	23	15	21	21	13	26	24	5	-3	-23	-17	-18	-15	-30	....	-0.7
Williston	Maximum	29	21	19	22	20	17	27	20	14	13	2	5	23	28	40	48	45	46	43	38	42	42	35	37	3	2	6	15	9	-7	....	23.8
	Minimum	16	16	-7	6	0	-4	12	-5	-12	1	-6	-9	1	-1	23	36	29	28	27	25	23	29	29	3	-3	-10	-11	-5	-12	-20	....	6.1
Willow City	Maximum	21	21	18	11	28	10	28	28	14	12	10	2	10	18	37	39	36	34	38	35	37	37	32	21	6	2	8	16	11	2	....	20.7
	Minimum	2	12	13	-18	18	-12	-8	16	-4	8	0	-6	-17	-6	4	7	21	17	19	24	12	29	21	6	-10	-19	-17	-5	2	-23	....	2.5
Zap	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 700 records.

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WEATHER BUREAU

CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

DECEMBER, 1919

BY

ORRIS W. ROBERTS

METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 27, 1920.

Departure of the Mean Temperature from the Normal, December, 1919.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVII. BISMARCK, N. D., DECEMBER, 1919. NO. 12.

GENERAL SUMMARY.

Taken as a whole, the weather during December was fairly favorable. The month opened with temperature considerably below the normal, a condition that prevailed during the first seventeen days. The precipitation during this period, as well as throughout the month, was below the normal. Intense cold and drifting snow during the second decade caused much suffering and some losses to livestock and necessitating much feeding, impeded rail, auto and wagon traffic, and delayed outside work. During the latter half of the month, however, there was a rapid rise in temperature, and the snow mostly disappeared, allowing corn husking and flax threshing to be completed, and livestock to graze freely upon the ranges and harvested fields. Considerable inconvenience was caused by the intense cold and shortage of fuel during the first half of the month, and only for the fact that North Dakota has an almost unlimited supply of lignite coal was a calamity averted.

TEMPERATURE.

The mean temperature for the State was 7.4°, or 5.6° below the normal, and 11.1° lower than the mean for December, 1918. The highest mean reported was 15.4° at Bowman, Bowman County; the lowest was −4.9° at Pembina, Pembina County. The highest temperature reported was 49° at Berthold Agency, McLean County, on the 29th; the lowest was −38° at Bottineau, Bottineau County, on the 9th. The greatest monthly range of temperature was 82° at Dunseith, Rolette County; the least was 61° at McLeod, Ransom County. The greatest daily range was 52° at New Salem, Morton County, on the 31st. All stations, with but one exception, produced mean temperatures below the normal. Generally the highest temperature occurred on the 21st, 24th or 25th, while the lowest occurred on the 8th, 9th or 10th.

PRECIPITATION.

The average precipitation for the State was 0.46 inch, or 0.08 inch below the normal, and 0.42 inch lower than the average for December, 1918. The greatest monthly amount reported was 1.30 inches at Cooperstown, Griggs County; there was none at Hettinger, Adams County, or New England, Hettinger County. The greatest amount recorded in any twenty-four consecutive hours was 0.66 inch at Bowbells, Burke County, on the 18th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall for the State was 4.8 inches.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
						Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.			Average.	Highest.*	Direction.	Date.
Bismarck	30.21	30.84	2	29.53	6	57	6,388	8.6	38	nw.	25
Devils Lake	30.14	30.75	2	29.38	6	44	7,956	10.7	40	nw.	25
Ellendale	30.18	30.79	2	29.52	7	56	9,819	13.2	44	nw.	7
Grand Forks	30.16	30.74	2	29.55	25	90	.....	.....	55	nw.	25
Williston	30.17	30.82	2	29.51	6	48	5,780	7.9	45	nw.	25
Moorhead, Minn	30.20	30.81	2	29.50	7	57	6,222	8.4	31	nw.	7
Averages or extremes.	30.18	30.84	2	29.38	6	.....	.....	9.8	55	nw.	25

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p.c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	181.1	265.8	68	+19	81	75	83	47	31
Devils Lake	142.4	262.1	54	+ 9	92	83	88	67	3
Ellendale	173.0	269.6	64	.....	88	.....	89	70	29
Grand Forks	.....	.....	.....	.....	92	.....	91	.....	.....
Williston	154.2	262.1	59	+17	89	79	81	62	29
Moorhead, Minn	.....	.....	.....	.....	85	.....	85	.....	.....
Averages or extremes	162.7	264.9	61	+12	88	79	86	47	31

* And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.*	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.58	+0.04	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.02	−0.52	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−11	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.

Climatological Data for December, 1919.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	6.5	−6.2	44	21	−26	9†	47	1.10	+0.68	0.50	11.0	4	13	6	12	nw.	E. T. Carley.
Arnegard	McKenzie		1	[a] 9.5	.....	48[a]	19	−30[a]	9	39[a]	0.03	.....	0.03	0	1	.....	.....	.....	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	[c] 14.0	+0.5	48[c]	22	−23[c]	10	33[c]	0.40	−0.11	0.30	4.0	2	.....	.....	.....	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. F. Yunker.
Berthold Agency†‡	McLean	2,082	25	10.1	−5.6	49	29	−30	15	39	0.68	−0.29	0.62	2.3	2	17	7	7	w.	C. L. Hall.
Bierman	Slope		3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. F. Bierman.
Bismarck	Burleigh	1,674	45	11.5	−3.5	46	22	−26	10	35	0.23	−0.39	0.19	3.9	3	15	10	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	2.2	−4.5	39	24	−38	9	35	0.32	−0.18	0.08	.....	7	.....	.....	.....	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	4.6	.....	40	21†	−34	11	39	0.66	.....	0.66	.....	1	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	.....	5	15.4	.....	46	22†	−25	9	40	0.03	.....	0.03	0.5	2	11	12	8	nw.	M. W. Madsen.
Cando	Towner	1,488	18	.....	.....	.....	.....	.....	.....	.....	0.60	+0.25	0.30	6.0	3	11	10	10	w.	A. J. Swanson.
Carson	Grant	2,500	7	9.6	.....	40	21	−28	9	32	0.14	.....	0.10	1.5	3	18	7	6	nw.	J. W. Evens.
Colgate	Steele	1,177	5	6.7	.....	40	25	−25	8	30	0.60	.....	0.30	6.0	3	23	2	6	w.	James McCann.
Cooperstown	Griggs	1,428	9	.....	.....	.....	.....	.....	.....	.....	1.30	+0.88	0.40	13.0	6	13	13	5	w.	S. Friswold.
Crosby	Divide	1,954	12	7.5	−5.0	39	25	−28	8†	27	0.20	−0.38	0.10	2.0	3	13	11	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	5.0	−3.0	40	25	−27	8	36	0.42	+0.03	0.18	7.6	6	15	4	12	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	12.2	−5.1	43	21†	−26	9	47	0.16	−0.28	0.12	.....	3	16	7	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	9.4	−2.8	44	24	−37	8	25	0.20	−0.29	0.20	2.0	1	5	19	7	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	10.1	.....	42	21†	−29	10	40	0.30	.....	0.30	2.0	2	14	9	8	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	3.8	−4.5	45	24	−37	9	37	0.60	+0.19	0.20	6.0	3	18	3	10	nw.	J. G. Lamont.
Eckman	Bottineau	.....	14	3.8	−5.8	38	21	−35	10	38	0.70	+0.08	0.30	.....	4	15	9	7	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	10.8	−5.7	44	22	−24	10	42	0.29	−0.12	0.24	.....	3	6	12	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	10.4	.....	46	25	−21	10	31	0.38	−0.30	0.14	5.0	7	7	12	12	nw.	U. S. Weather Bureau.
Energy †‡	McLean	1,750	7	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	.....	1	4	25	2	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	.....	.....	.....	.....	.....	.....	.....	0.12	−0.36	0.04	2.5	5	19	9	3	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	6.0	.....	46	25	−30	10	34	0.90	.....	0.40	8.5	4	16	7	8	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. T. Denk.
Fryburg	Billings	2,790	1	.....	.....	.....	.....	.....	.....	.....	0.36	.....	0.31	4.5	2	10	14	7	nw.	Verne King.
Fullerton	Dickey	1,439	21	10.4	−3.3	45	25	−20	8†	33	0.50	−0.36	0.10	5.0	5	15	10	6	nw.	F. O. Alin.
Garrison	McLean	1,901	24	8.5	−5.1	41	24†	−28	10	31	0.14	−0.46	0.08	1.8	3	12	12	7	nw.	G. L. Robinson.
Grafton	Walsh	827	27	3.6	−4.1	42	25	−31	10	40	0.23	−0.32	0.19	1.6	2	19	4	8	nw.	A. R. T. Wylie.
Grand Forks †‡	Grand Forks	830	27	2.9	−7.7	42	25	−28	8	37	0.22	−0.37	0.07	1.9	6	16	5	10	nw.	U. S. Weather Bureau.
Grand Rapids	LaMoure	1,321	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. E. Pooley.
Granville	McHenry	1,504	12	8.0	−4.4	43	22	−28	10	32	1.10	+0.61	0.50	11.0	5	16	7	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	2.2	−4.7	35	25	−34	10	34	0.50	−0.08	0.20	5.0	4	15	10	6	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	3.4	−3.9	42	25	−34	8†	38	0.40	−0.30	0.20	5.0	3	12	11	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	14.1	−1.7	47	22†	−29	9	32	0.00	−0.40	0.00	0	0	28	2	1	nw.	U. J. Downey.
Hillsboro	Traill	901	13	5.0	−7.6	39	25	−26	10†	34	0.60	−0.35	0.20	6.0	7	10	16	5	nw.	F. E. Mayall.
Howard †‡	Williams	2,275	12	6.8	−5.0	38	22†	−33	10	41	0.39	−0.46	0.29	2.9	2	.....	.....	.....	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	9.0	−4.6	41	25	−26	10	31	0.90	+0.18	0.40	9.0	4	18	2	11	sw.	S. Calvelage.
Lakota	Nelson	1,579	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Pettes.
Lamoine	Kidder	1,936	11	[a] 4.1	−7.1	38[a]	25	−32[a]	10	36[a]	0.60	+0.13	0.20	6.0	3	.....	.....	.....	w.	E. V. Virgin.
Langdon	Cavalier	1,615	23	0.6	−6.7	36	25	−35	9†	39	0.50	−0.26	0.10	5.0	6	18	4	9	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	5.4	−5.4	40	21†	−28	8	30	0.50	−0.02	0.30	5.0	2	14	12	5	nw.	Reuben Gray.
Linton	Emmons	1,711	1	10.2	.....	45	29	−30	9	46	0.11	.....	0.10	.....	2	.....	.....	.....	.....	J. G. Sailer.
Lisbon	Ransom	1,091	15	.....	.....	.....	.....	.....	.....	.....	T.	−0.48	T.	T.	0	.....	.....	.....	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.20	6.5	4	12	9	10	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. E. Trudeau.
McKinney †‡	Renville	1,640	25	7.6	−3.1	45	25	−28	9	33	0.40	−0.02	0.30	4.0	2	7	19	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	8.9	.....	38	25	−23	10†	33	0.27	.....	0.13	.....	3	21	4	6	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	6.0	.....	43	25	−28	15	37	0.32	.....	0.32	.....	1	9	16	6	nw.	A. T. Felland.
Mandan	Morton	1,644	5	10.5	.....	45	22	−27	10	37	0.25	.....	0.14	.....	3	.....	.....	.....	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	5.1[a]	−6.2	38[a]	24	−28[a]	15	32[a]	0.90	+0.13	0.40	9.0	6	.....	.....	.....	nw.	P. B. Anderson.
Marmarth	Slope	.....	10	14.4[a]	−3.3	45[a]	30	−26[a]	9	37[a]	0.15	−0.19	0.04	1.8	6	12	13	6	w.	S. P. Grane.
Mayville	Traill	975	23	6.0	−7.1	38	25	−25	15	38	0.82	+0.27	0.20	.....	8	14	7	10	nw.	W. C. Gould.
Melville	Foster	1,590	21	[c] 7.6	−4.2	40[c]	21	−26[c]	10	30[c]	0.60	+0.19	0.60	6.0	1	.....	.....	.....	nw.	J. P. Kidder.
Minot	Ward	1,557	23	[a] 5.6	−6.8	44[a]	21	−32[a]	10	42[a]	0.80	+0.35	0.40	8.0	3	.....	.....	.....	nw.	W. I. Faris.
Minto	Walsh	820	26	.....	.....	.....	.....	−30[b]	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Evans.
Mott	Hettinger	2,424	12	12.1	−2.0	45	21	−27	9	44	0.25	−0.37	0.12	2.0	3	14	8	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	8.1	−4.3	40	22†	−33	10	40	0.35	−0.15	0.20	4.0	3	15	6	10	w.	C. J. Hoof.
New England	Hettinger	2,400	25	14.0	−3.4	47	20†	−25	8	45	0.00	−0.44	0.00	0	0	17	7	7	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	11.8	−3.1	45	25	−31	9	52	0.43	−0.07	0.20	4.2	4	14	11	6	nw.	J. Christiansen.
Orange †‡	Adams	2,586	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. Lowries.
Park River	Walsh	998	15	[c] 3.0	−8.1	40[c]	22	−27[c]	9	38[c]	0.21	−0.36	0.11	3.1	2	.....	.....	.....	nw.	C. B. Wright.
Parshall	Mountrail	.....	4	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	45	−4.9	−10.9	32	19†	−32	8	40	0.20	−0.65	0.20	2.0	1	.....	.....	.....	w.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	5.3	.....	40	25	−33	10	35	0.70	.....	0.30	7.0	5	6	14	11	nw.	A. O'Neill.
Power	Richland	1,020	26	.....	.....	.....	.....	.....	.....	.....	0.80	+0.30	.....	8.0	4	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	4	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.15	6.5	5	8	7	16	nw.	C. Frank.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	−0.40	0.03	0.5	1	12	12	7	nw.	H. F. Solenberger.
Sherwood	Renville	1,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blake Lancaster.
Steele	Kidder	1,857	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. S. Wood.
Taylor	Stark	2,493	3	[a] 12.2	.....	46[a]	22	−26[a]	11	40[a]	0.02	.....	0.02	.....	1	.....	.....	.....	w.	H. Leutz.
Towner	McHenry	1,482	17	4.4	−5.6	37	29	−33	16	36	0.50	+0.09	0.40	5.0	2	22	6	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	8.2	.....	41	25	−28	10	34	0.79	.....	0.34	3.0	3	12	6	13	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	6.4	−7.3	37	25	−26	10	30	0.85	+0.34	0.40	8.5	5	17	7	7	w.	C. F. Schroeder.
Wahpeton	Richland	962	25	8.3	−6.4	39	22†	−21	10	30	0.90	+0.44	0.30	9.0	7	11	13	7	nw.	G. C. Morehart.
Walhalla	Pembina	966	12	3.6	−5.9	43	25	−29	9	40	0.60	−0.49	0.20	6.0	3	18	4	9	w.	Ivan Lee.
Washburn	McLean	1,734	20	11.0	−3.0	43	24	−29	10	33	0.49	+0.20	0.32	3.5	3	14	11	6	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	2.6	−6.4	40	25	−32	8†	39	0.87	+0.52	0.58	.....	3	9	12	10	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	9.7	−3.9	42	25	−27	10	32	0.25	−0.41	0.14	2.1	4	10	13	8	.....	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	2.4	−6.1	40	21	−34	9†	38	1.10	+0.59	0.30	11.0	6	16	6	9	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	.....	.....	43[b]	24	−23[f]	11	43[b]	0.60	+0.27	0.60	6.0	1	.....	.....	.....	.....	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	7.4	−3.3	41	25	−22	10	31	0.78	+0.04	0.25	8.0	11	16	5	10	nw.	U. S. Weather Bureau.
Averages				7.4	−5.6	49	29	−38	9	52	0.46	−0.08	0.66	4.8	3	14	9	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tutle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1919.

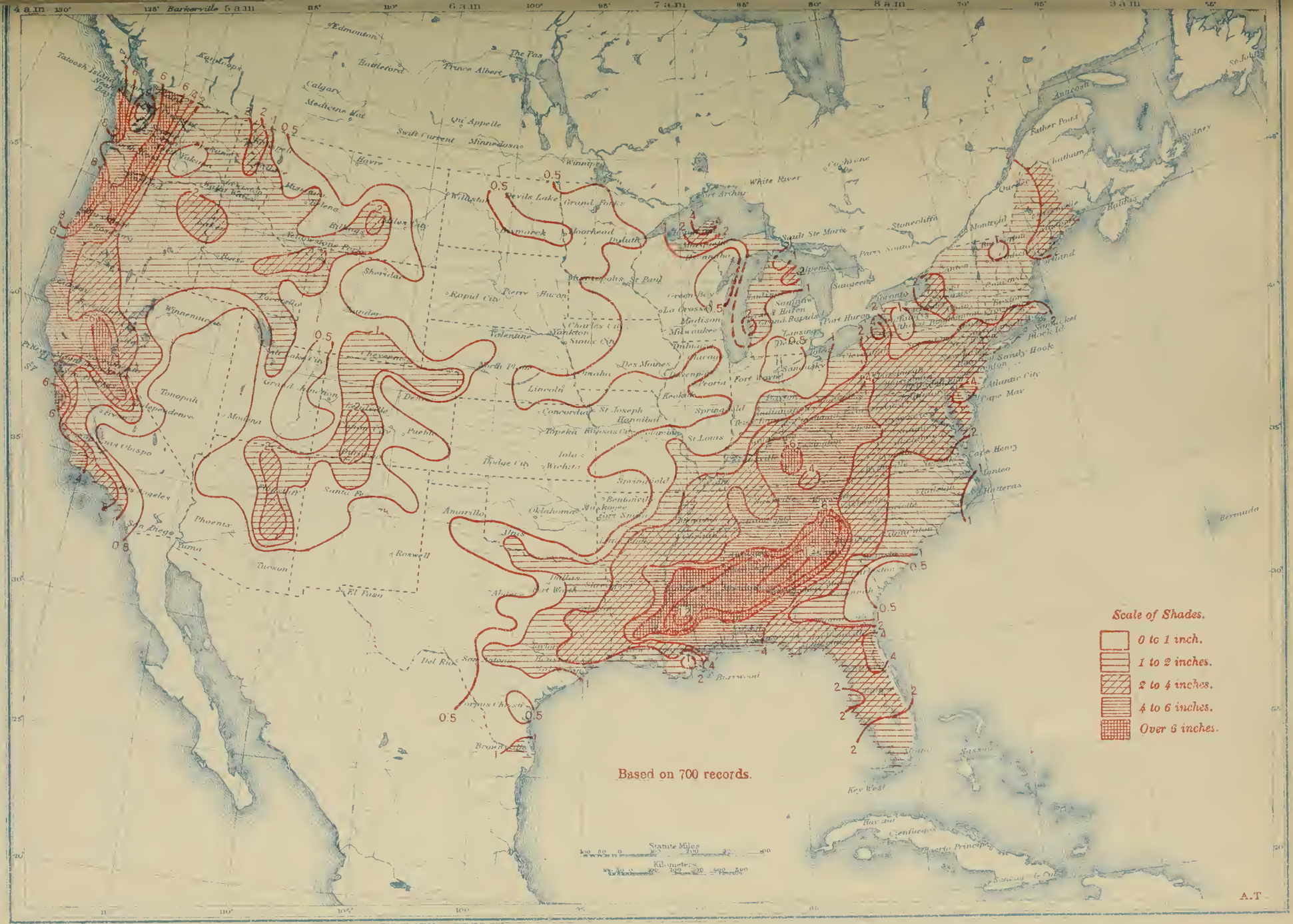
Stations.	Watersheds.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖	Red					.20		T.				.10					.50	.30										T.					1.10
Arnegard	Missouri																	.03															0.03
Ashley	Missouri												.10															.30					0.40
Beach	Lit. Missouri																																.....
Berthold Agency	Missouri					T.					.62			T.				.06															0.68
Bierman	Lit. Missouri																																.....
Bismarck ***	Missouri				T.	.04	T.					.12	.07		T.			T.						T.				T.			T.		0.23
Bottineau‖ ‖	Mouse						T.	.07			.04					.01	.08	.07									.04	.01					0.32
Bowbells ‖ ‖	Mouse																		.65														0.66
Bowman	Grand											*	.03																			T.	0.03
Cando	Sheyenne											.30						.17										.13					0.60
Carson	Heart					.02						.02	.12																				0.14
Colgate	Sheyenne						.20											.30										.10					0.60
Cooperstown	Sheyenne					.10	T.				.10		.20					.40	.40									.10					1.30
Crosby	Mouse										.02	.08							.10												T.		0.20
Devils Lake ***	Sheyenne				T.		T.	.01			T.	.07					.01	.16	.08									.09			T.		0.42
Dickinson‖ ‖	Heart						.02					.02	.12			T.																T.	0.16
Donnybrook	Mouse											.20	T.																				0.20
Dunn Center	Knife											.20							.30												T.		0.50
Dunseith	Mouse											.10						.20										.30					0.60
Eckman	Mouse						T.					.10					.20	.30									.10						0.70
Edgeley	James					.02												.03	.24														0.29
Ellendale ***	James					.02	.02	T.			T.	.08	.06		T.	T.	T.	.04	.12					T.				.04			T.		0.38
Energy	Missouri							T.			T.	.02	T.	T.	T.			T.						T.									0.02
Epping	Missouri				.02		.02	.03			.01	.04							T.														0.12
Fessenden	James				T.	T.	T.	.05				.20				T.	T.	T.	.40									.25			T.		0.90
Forman	Sheyenne																																.....
Fryburg	Lit. Missouri						.05					.31																					0.36
Fullerton	James					T.	.10					T.	.10		T.	.10		.10										.10					0.50
Garrison	Missouri					.01						.08							.05														0.14
Graftou	Red						.19												.04														0.23
Grand Forks ***	Red				T.	.01	T.	.05				.07					T.	.04	T.					T.				.01	.04		T.		0.22
Granville	Mouse					T.		T.				.10						.20		.50								.20			.10		1.10
Hannah	Pembina						.10			T.								.20								T.	.10		.10			0.50
Hansboro	Red					.05						.15																.20					0.40
Hettinger	Grand																																0.00
Hillsboro	Red						.05					.05	T.				.05	.20	.10							T.		.10	.05				0.60
Howard	Missouri					T.	T.				T.	.29							.10														0.39
Jamestown	James					.30							.10					.10	.40														0.90
Lakota	Sheyenne																																.....
Lamoine	Missouri				T.	T.		T.				.20							T.	.20								.20					0.60
Langdon	Pembina					.05	.10					.10						.10	.10							T.					.05		0.50
Larimore	Red											.20						.30															0.50
Linton	Missouri					.10						.01			T.																		0.11
Lisbon	Sheyenne					T.													T.											T.		T.
McClusky	Missouri					.05						.20							.20									.20					0.65
McHenry	James																																.....
McKinney	Mouse											.10				T.	T.	T.	.30									T.			T.		0.40
McLeod	Sheyenne					.13												.06										.08					0.27
Maddock	Sheyenne																.32																0.32
Mandan‖ ‖	Missouri					T.			.02				.09			T.			.14	T.											T.		0.25
Manfred	Sheyenne					T.	.07	.05				.10	.10				T.	.40									.20		T.				0.90
Marmarth	Lit. Missouri	.02					.04	.04				.02	.02													.01				T.			0.15
Mayville	Red						.10	.10				.10	.12					.20	.05								.10	.05					0.82
Melville	James					T.						T.							.60									T.					0.60
Minot	Mouse											.40						.10	.30														0.80
Minto	Red																																.....
Mott	Cannon Ball										.12	.10												.03									0.25
Napoleon	Missouri					.05													.10									.20					0.35
New England ‖ ‖	Cannon Ball																																0.00
New Salem	Heart				T.	.02	T.					.20	.20		T.				.01														0.43
Orange	Cannon Ball																																.....
Park River	Red												.11					.10															0.21
Parshall	Missouri											T.																					T.
Pembina ‖ ‖	Red							.20																									0.20
Pettibone	James					.10		T.				*	.10		T.				.30									.20					0.70
Power	Missouri					.20						T.						*	.50									.10					0.80
Powers Lake	Sheyenne			T.	T.	.10		T.	.15		T.	.15					.15														.10		0.65
Selfridge	Missouri												.03																			T.	0.03
Sherwood	Mouse																																.....
Steele	Missouri																																.....
Taylor	Heart					T.						.02			T.																T.		0.02
Towner	Mouse							T.											.40									.10			T.		0.50
Turtle Lake	Missouri					T.	T.					.30	.15						.34									T.					0.79
Valley City	Sheyenne					.05	T.						.10			T.		.40	.20					T.				.10					0.85
Wahpeton	Red						.30	.05				.05	.05					.10	.30									.05					0.90
Walhalla	Pembina											.20						.20	.20														0.60
Washburn	Missouri											.08	.09						.32														0.49
Westhope	Mouse																	.58				.13						.16					0.89
Williston ***	Missouri				T.	T.	.04				.08	.07						.06													T.		0.25
Willow City	Mouse						.10					.20					T.	.30	.20									.20			.10		1.10
Zap	Knife				T.						.60								T.														0.60
Moorhead, Minn ***	Red					.06	.07					.02	.05		.02	.01	.02	.15	.25									.06	.07				0.78

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1919.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	8	21	13	14	18	7	2	−5	−9	−10	−2	0	−5	0	−2	5	17	29	36	34	44	41	42	41	35	31	37	38	35	21	25	18.1
	Minimum	−18	−17	−3	−5	−5	2	−21	−20	−26	−26	−12	−19	−19	−26	−20	−9	−6	5	16	17	7	11	8	10	11	8	6	13	12	−11	−22	−5.1
Ashley	Maximum	.....	.....	.....	.....	23	18	12	3	−8	−6	0	−7	5	0	6	....	15	21	31	37	38	48	35	29	42	38	37	34	39	40	17	[c]21.0
	Minimum	.....	.....	.....	.....	−10	10	−8	−21	−22	−23	−9	−14	−20	−11	−21	....	−12	7	15	15	17	25	17	13	25	24	28	28	28	13	−8	[c]6.9
Beach	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berthold Agency	Maximum	−3	11	28	22	19	19	21	−7	−3	−6	−6	−7	6	2	5	2	23	27	39	40	41	48	41	48	48	41	41	43	49	33	18	22.0
	Minimum	−18	−16	−11	−2	3	4	−10	−23	−27	−29	−19	−13	−17	−18	−30	−20	−2	6	5	17	9	13	18	15	30	28	33	16	30	14	−10	−0.8
Bismarck	Maximum	−1	11	28	24	16	20	19	−9	−8	−7	−3	−6	6	0	4	2	22	30	39	37	42	46	39	44	44	39	39	39	42	35	11	20.8
	Minimum	−10	−12	−7	7	−2	12	−16	−23	−23	−26	−10	−16	−16	−23	−25	−14	1	12	19	21	19	25	17	18	30	29	31	22	24	11	−8	2.2
Bottineau §§	Maximum	−8	−1	15	14	17	17	5	−5	−7	−6	−14	−4	−16	−2	−5	8	19	29	29	37	34	23	36	39	28	31	35	29	21	9	−20	12.5
	Minimum	−25	−23	−19	−13	1	5	−5	−35	−38	−33	−22	−26	−24	−29	−22	−9	−6	3	11	16	12	14	1	20	15	18	6	9	8	−20	−30	−7.7
Bowbells §§	Maximum	4	1	12	12	18	12	2	−5	−16	−13	−12	−13	2	−13	1	−2	11	32	36	35	40	38	35	40	35	30	34	36	32	30	18	15.2
	Minimum	−24	−21	−19	−9	6	2	−9	−29	−31	−33	−34	−24	−26	−25	−28	−14	−11	−7	5	15	12	15	10	12	8	19	20	15	17	18	−20	−6.1
Carson	Maximum	−5	−5	26	11	12	16	14	−11	−5	−5	−12	−12	−5	−11	5	5	35	32	33	32	40	38	35	38	33	34	35	32	32	30	15	16.5
	Minimum	−13	−17	−11	9	0	6	−11	−25	−28	−26	−14	−18	−18	−18	−18	−6	3	18	20	20	25	28	20	20	33	30	25	20	25	15	−9	2.7
Crosby	Maximum	−3	−1	11	18	19	15	15	−12	−12	−10	−12	−10	−2	2	1	3	15	28	34	32	36	31	34	35	39	35	33	35	36	24	11	15.5
	Minimum	−20	−16	−11	0	6	3	−12	−28	−26	−28	−19	−22	−14	−21	−22	−8	0	8	18	15	21	20	18	20	25	22	19	20	20	11	−15	−0.5
Devils Lake	Maximum	−5	2	14	16	16	17	17	−16	−14	−10	−7	−10	−2	−2	−3	−3	5	19	34	28	38	33	25	34	40	30	31	35	36	16	4	13.5
	Minimum	−20	−17	−7	6	−1	13	−19	−27	−26	−25	−12	−18	−20	−22	−26	−10	−9	2	14	15	17	20	−3	−2	29	17	17	16	9	2	−18	−3.4
Dickinson §§	Maximum	−4	9	30	22	23	20	6	−2	−12	−9	−10	−10	2	−10	10	18	41	34	39	42	43	42	30	42	43	40	38	43	41	41	20	21.4
	Minimum	−12	−15	−8	10	10	2	−2	−23	−26	−24	−12	−16	−17	−14	−23	−8	−6	18	15	15	20	20	20	20	32	23	31	22	26	25	−9	3.0
Donnybrook	Maximum	−4	3	14	19	18	20	10	−12	−15	−11	−8	−10	−1	3	5	3	12	31	39	35	42	41	29	39	44	36	36	34	39	35	11	17.3
	Minimum	−18	−15	−10	10	9	9	−12	−37	−25	−26	−22	−18	−17	−20	−19	−11	−3	5	22	21	27	20	17	18	31	28	30	21	32	11	−14	1.6
Dunseith	Maximum	17	0	10	13	15	16	15	−13	−13	−17	−8	−12	−5	−9	−5	−4	1	9	25	40	41	38	30	45	40	39	34	35	42	22	5	14.4
	Minimum	−21	−22	−12	0	2	4	−14	−36	−37	−31	−20	−30	−20	−21	−19	−10	−8	1	9	21	16	−6	−6	8	6	22	17	2	20	1	−23	−6.7
Edgeley	Maximum	2	11	20	23	19	18	19	7	−7	−7	−1	−4	4	−2	4	1	11	13	30	39	43	44	39	31	41	36	36	34	39	34	33	19.7
	Minimum	−10	−10	−8	5	−1	8	−1	−20	−20	−24	−9	−11	−15	−10	−20	−14	−7	2	9	17	13	28	19	14	26	27	23	19	27	11	−9	1.9
Ellendale	Maximum	1	12	15	25	17	20	20	−9	−6	−3	0	−6	5	3	2	1	12	15	28	37	35	40	40	30	46	38	36	33	40	27	15	18.4
	Minimum	−7	−9	−9	1	2	9	−11	−16	−18	−21	−6	−11	−17	−10	−17	−12	−5	6	12	14	15	24	14	12	25	30	23	22	24	13	−6	2.3
Fessenden	Maximum	−3	7	18	19	17	17	18	−11	−9	−10	−5	−1	−5	−2	−2	−3	9	15	32	35	39	40	31	33	46	35	33	33	36	25	14	16.2
	Minimum	−22	−16	−11	7	−1	10	−13	−27	−27	−30	−14	−23	−15	−27	−29	−13	−10	2	13	10	10	22	3	−1	20	20	20	10	20	5	−20	−4.1
Forman	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fullerton	Maximum	12	10	16	25	18	20	20	9	−5	−5	1	2	4	6	3	2	12	15	27	33	35	37	37	30	45	37	34	32	39	25	15	19.1
	Minimum	−9	−10	−7	1	2	10	−13	−20	−17	−20	−7	−9	−16	−13	−19	−12	−6	5	15	14	12	25	17	15	24	27	22	18	23	10	−7	1.8
Garrison	Maximum	−2	10	22	20	19	17	16	−4	−10	−8	−10	−5	4	−1	2	4	18	29	34	33	40	38	33	41	41	36	35	37	30	30	16	18.2
	Minimum	−20	−15	−9	6	5	6	−12	−26	−27	−28	−19	−16	−21	−17	−23	−25	−4	7	12	16	16	19	15	14	27	23	27	27	10	10	−15	−1.2
Grafton	Maximum	−5	5	10	15	15	17	17	−8	−12	−11	−6	−7	−5	−5	−5	−5	0	5	24	35	35	32	26	28	42	37	30	23	37	32	15	13.3
	Minimum	−28	−22	−24	−5	−13	−1	−8	−30	−28	−31	−18	−12	−22	−20	−27	−16	−11	−5	4	23	9	20	6	−12	13	24	10	14	20	12	−13	−6.2
Grand Forks	Maximum	−8	3	10	15	13	16	18	−12	−11	−10	−4	−8	−1	−8	−5	−4	2	9	28	34	29	31	26	30	42	31	24	26	35	16	1	11.9
	Minimum	−23	−21	−16	−5	−10	6	−19	−28	−22	−27	−10	−22	−22	−27	−28	−10	−9	2	9	12	11	17	−2	−6	25	21	8	17	8	1	−19	−6.1
Granville	Maximum	−5	5	18	19	18	20	20	7	0	−12	−10	−8	0	0	−4	0	10	20	37	33	39	43	30	40	40	36	35	36	37	20	5	17.1
	Minimum	−19	−16	−12	9	5	5	−12	−25	−26	−28	−19	−18	−16	−23	−18	−12	−5	5	10	15	24	25	0	10	35	23	27	16	14	5	−16	−1.2
Hannah	Maximum	−2	3	11	16	17	16	8	−6	−11	0	2	−5	−10	−10	−8	−7	−1	10	17	21	26	27	21	30	35	28	27	26	25	19	4	10.6
	Minimum	−26	−20	−16	−4	−5	13	−10	−31	−33	−34	−14	−24	−26	−27	−32	−12	−11	−4	5	8	16	14	9	17	28	12	11	12	10	4	−22	−6.2
Hansboro	Maximum	−5	12	11	14	17	18	16	−11	−10	−10	−10	−9	−2	−7	−2	−5	2	12	28	36	38	38	28	28	42	36	28	34	41	20	10	14.1
	Minimum	−21	−23	−15	0	−2	4	−20	−34	−34	−33	−23	−20	−25	−25	−29	−19	−12	−2	8	19	13	13	−2	−10	22	14	13	19	11	6	−20	−7.3
Hettinger	Maximum	8	5	17	17	12	18	18	−5	−3	−6	−3	−4	−6	12	16	16	42	41	42	44	44	47	45	47	36	43	41	45	47	47	22	24.0
	Minimum	−9	−19	−12	5	8	−3	−5	−23	−29	−26	−22	−22	−19	−5	−15	10	10	16	22	24	26	27	26	32	16	26	18	32	29	16	−5	4.2
Howard	Maximum	−4	−4	18	27	17	15	5	−14	−15	−16	−15	−14	−3	−5	−4	−2	28	31	34	32	37	38	32	38	38	34	34	35	35	28	10	15.2
	Minimum	−24	−21	−23	9	14	2	−14	−30	−31	33	−23	−30	−20	−20	−20	−11	−2	11	20	15	24	22	20	20	30	20	20	19	19	10	−18	−1.5
Jamestown	Maximum	−1	10	21	22	20	18	19	−8	−10	−8	−4	−7	0	−2	4	−2	10	11	31	37	37	40	35	32	41	36	33	31	38	30	17	17.1
	Minimum	−11	−12	−10	6	1	7	−8	−24	−22	−26	−9	−14	−19	−14	−22	−11	−8	4	11	14	14	26	15	12	14	25	21	19	24	10	12	0.8
Lakota	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lamoine	Maximum	−4	5	18	19	16	14	11	−8	−20	−8	−11	−10	0	−3	−4	0	10	20	27	34	....	27	28	28	38	34	33	33	34	21	−10	[b]12.4
	Minimum	−20	−18	−13	5	0	11	−8	−29	−30	−32	−20	−17	−25	−30	−28	−13	−7	5	17	19	....	16	13	10	26	22	24	11	21	−16	−20	[a]4.2
Langdon	Maximum	−10	6	10	14	16	15	7	−10	−15	−15	−15	−7	−9	−15	6	4	0	10	20	29	34	30	19	34	36	30	29	30	31	17	5	10.8
	Minimum	−23	−23	−15	−10	−9	0	−10	−34	−35	−34	−23	−22	−30	−26	−35	−15	−13	−10	−12	20	14	10	−7	−5	16	10	16	10	20	5	−23	−9.5
Larimore	Maximum	−3	−5	13	17	15	20	20	−10	−12	−10	−7	−5	−7	−5	−2	−3	3	10	19	35	40	40	24	30	40	35	25	30	36	16	12	13.3
	Minimum	−20	−16	−9	2	−3	5	−10	−28	−24	−23	−12	−17	−18	−20	−25	−12	−10	1	9	23	10	24	4	5	25	23	10	20	16	9	−13	−2.4
Lisbon	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHenry	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKinney	Maximum	−5	0	15	17	19	19	19	−14	−15	−12	−8	−11	−3	0	0	−2	5	20	36	32	36	38	33	34	45	40	35	36	37	31	23	16.1
	Minimum	−22	−14	−13	9	8	9	−14	−25	−28	−27	−19	−22	−16	−21	−23	−7	−5	−5	9	18	22	22	10	10	28	18	28	20	21	18	−19	−1.0
Maddock	Maximum	−6	3	17	19	16	16	15	−6	−14	−11	−7	−8	−4	−7	−1	−3	−7	12	28	31	38	36	29	33	43	37	29	32	35	26	15	14.5
	Minimum	−20	−15	−9	6	0	10	−8	−27	−25	−26	−14	−15	−21	−20	−28	−10	−8	3	11	15	11	17	4	−4	29	21	21	11	26	5	−19	−2.5
Marmarth	Maximum	−3	2	23	22	18	18	18	−6	−12	−9	−8	−9	−5	16	....	31	38	39	39	38	40	44	38	41	43	37	41	41	44	45	13	[b]22.8
	Minimum	−11	−22	−13	5	−3	1	−7	−20	−26	−23	−16	−21	−13	−4	....	−6	24	31	21	24	25	25	26	25	30	24	32	25	31	12	0	[a]5.9
Minot	Maximum	−4	5	18	19	20	....	15	−8	−15	−13	−13	−8	1	1	6	1	12	28	40	37	44	40	37	43	43	35	38	38	36	20	10	[a]17.3
	Minimum	−22	−27	−17	7	3	....	−18	−29	−30	−32	−25	−22	−19	−23	−27	−16	−10	1	12	17	24	11	3	1	27	25	14	17	3	−7	−20	[a]−6.0
Mott	Maximum	−5	10	32	34	26	17	12	4	−8	3	0	3	10	16	11	18	35	36	38	41	45	41	36	44	40	37	38	40	32	28	23	23.8
	Minimum	−10	−17	−12	−1	−6	−5	−7	−21	−27	−18	−14	−17	−14	−15	−21	−2	−1	28	23	20	25	21	22	21	20	15	17	21	−6	−8	2	0.4
Napoleon	Maximum	−3	10	18	22	18	18	17	−4	−9	−6	−3	7	4	−1	6	1	18	29	30	32	38	40	38	30	40	37	35	34	36	35	26	18.7
	Minimum	−15	−17	11	4	−9	4	−7	−28	−30	−33	−15	−17	−25	−17	−27	−15	−10	1	10	15	13	22	17	13	25	19	27	11	26	7	−14	−2.5
New England §§	Maximum	4	32	22	21	21	5	1	−10	0	−6	−6	7	5	20	33	40	34	41	41	47	47	32	46	41	40	38	44	41	44	25	−4	24.1
	Minimum	−15	−13	3	11	4	1	−20	−25	−21	−17	−18	−16	−14	−17	−12	2	25	18	16	17	25	25	27	28	24	26	20	24	25	6	−7	3.9
New Salem	Maximum	−3	10	27	22	17	18	20	−3	−7	−7	−4	−6	6	2	3	2	25	35	38	39	42	40	36	42	45	44	36	38	40	40	40	21.8
	Minimum	−17	−15	−10	10	1	15	−12	−27	−31	−29	−16	−19	−21	−16	−22	−14	−5	25	22	19	22	18	24	28	25	26	26	21	24	18	−12	1.9
Orange	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Park River	Maximum	−6	−6	12	12	16	18	16	6	1	−11	−8	−10	−3	−5	−4	−4	2	.....	.....	.....	.....	40	28	32	39	40	35	....	37	26	24	[c]12.6
	Minimum	−18	−15	−12	−6	−3	7	4	−26	−27	−26	−17	−20	−18	−20	−24	−14	−14	.....	.....	.....	.....	5	4	−2	26	22	11	....	10	−14	−c	6.7
Pembina §§	Maximum	−4	14	14	10	28	4	4	−8	−12	−9	−8	−2	−4	−8	−12	−8	−4	4	32	28	12	22	28	32	22	10	−4	−2	−8	−2	−8	5.0
	Minimum	−31	−25	−12	−4	−12	4	−8	−32	−30	−25	−22	−18	−22	−18	−24	−20	−20	18	−8	−10	12	−10	−4	4	−6	−10	−16	−20	−18	−22	−16	−14.9
Steele	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Minimum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towner	Maximum	−8	3	15	17	16	18	18	−7	−12	−15	−7	−8	−8	−10	−15	3	10	16	30	33	33	30	23	35	34	34	34	34	37	27	13	13.5
	Minimum	−22	−18	−16	−2	1	8	−7	−28	−28	−31	15	−17	−23	−26	−28	−33	−2	4	10	20	10	18	5	−3	20	18	24	9	24	3	−21	−4.7
Valley City	Maximum	−3	6	15	21	16	16	11	−5	−11	−9	−4	−5	−4	−3	−1	−4	4	8	22	32	34	33	29	29	37	35	30	30	36	25	16	14.1
	Minimum	−17	−13	−9	2	−4	6	−5	−23	−20	−26	−11	−15	−21	−19	−25	−10	−9	2	8	11	14	23	15	12	26	22	15	15	22	9	−14	−1.3
Wahpeton	Maximum	2	9	18	23	18	19	10	−9	−7	−3	6	−3	5	5	0	5	4	8	26	32	33	39	29	25	39	33	23	31	37	29	5	15.8
	Minimum	−14	−12	−7	−7	−1	10	−9	−18	−18	−21	−3	−8	−18	−11	−19	−4	−5	0	7	17	20	21	18	−3	26	25	11	26	21	5	−4	0.8
Westhope	Maximum	−8	0	0	12	19	19	10	−10	−10	−15	−13	−15	−8	−5	−6	−5	4	14	12	32	30	25	25	39	40	38	35	35	35	18	5	11.4
	Minimum	−25	−21	−19	10	−5	5	−13	−32	−32	−32	−20	−21	−21	−28	−29	−8	−8	6	5	12	14	10	5	0	28	20	22	5	14	5	−22	−6.3
Williston	Maximum	−8	0	15	21	17	19	10	−12	−12	−10	−10	−8	3	1	−2	6	33	34	38	36	38	41	37	40	42	36	38	39	38	27	7	17.9
	Minimum	−18	−16	−8	10	14	5	−20	−24	−26	−27	−18	−19	−16	−20	−18	−10	4	12	14	19	25	21	24	26	28	23	28	20	25	5	−13	1.5
Willow City	Maximum	−7	0	14	14	18	18	7	−6	−15	−15	−6	−11	−5	−12	−4	−4	6	12	30	23	40	23	23	33	39	29	32	23	33	15	2	11.3
	Minimum	−23	−22	−19	−2	−5	7	−6	−30	−34	−30	−18	−20	−26	−25	−34	−9	−5	3	5	10	10	12	5	−5	21	18	20	3	19	−2	−28	−6.6
Zap	Maximum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	32	38	37	40	42	42	43	41	38	40	38	41	39	30	.....
	Minimum	−15	14	−9	−6	4	17	....	−10	.....	.....	−23	.....	.....	.....	.....	−10	−2	10	9	15	20	.....	.....	.....	34	29	18	29	35	10	−13	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Based on 700 records.
Statute Miles
Kilometers
Barkerville
Edmonton
The Pas
Calgary
Medicine Hat
Qu'Appelle
Swift Current
Minnedosa
Winnipeg
Havre
Devils Lake
Grand Forks
Bismarck
Moorhead
Duluth
White River
Port Arthur
Sault Ste Marie
Parry Sound
Stonecliffe
Montreal
Quebec
Father Point
Chatham
Sydney
Bathurst
Anticosti
St John
Miles City
Billings
Rapid City
Pierre
Huron
Minneapolis
St Paul
Green Bay
La Crosse
Madison
Milwaukee
Chicago
Toledo
Detroit
Port Huron
Saugeen
Toronto
Kingston
Lansing
Grand Rapids
Sandusky
Fort Wayne
Peoria
Rockford
Omaha
Des Moines
Lincoln
North Platte
Denver
Pueblo
Colorado Springs
Cheyenne
Salt Lake City
Ogden
Winnemucca
Reno
Carson
Tonopah
Independence
Modena
Virginia City
Sacramento
San Francisco
San Luis Obispo
Los Angeles
San Diego
Phoenix
Yuma
Tucson
Santa Fe
Roswell
El Paso
Amarillo
Wichita
Topeka
Kansas City
St Joseph
Hannibal
Springfield
St Louis
Indianapolis
Cincinnati
Columbus
Pittsburg
Buffalo
Rochester
Albany
Syracuse
Utica
Boston
New York
Atlantic City
Cape May
Cape Henry
Hatteras
Bermuda
Key West
Havana
Cienfuegos
Santiago de Cuba
Nassau
Abilene
Fort Worth
Dallas
Austin
Del Rio
Brownsville
Corpus Christi
Galveston
Houston
Port Arthur
Shreveport
Vicksburg
Memphis
Little Rock
Nashville
Louisville
Evansville
Terre Haute
Lafayette
Fort Wayne
Toledo
Cleveland
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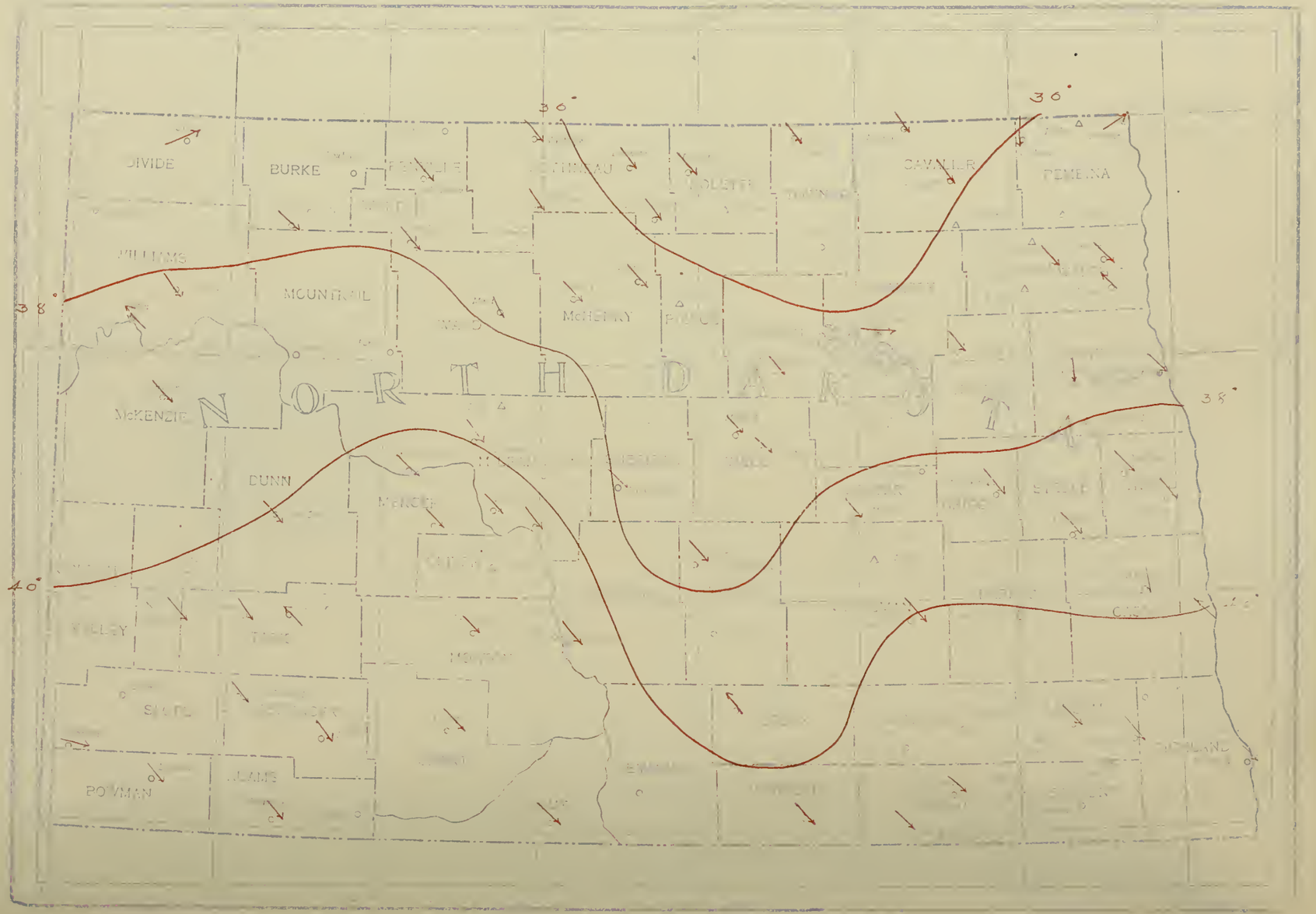
CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ANNUAL SUMMARY, 1919

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 14, 1920.


DIVIDE
BURKE
BOTTINEAU
CAVALIER
PEMBINA
WILLIAMS
MOUNTRAIL
McHENRY
NORTH DAKOTA
McKENZIE
DUNN
MERCER
OLIVER
STEELE
KIDDER
LOGAN
MCINTOSH
EMMONS
LOGAN
SLOPE
BOWMAN
ADAMS
30°
30°
35°
40°

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXVIII. BISMARCK, N. D., ANNUAL, 1919. No. 13.

GENERAL SUMMARY.

Weather conditions ranged from good in the eastern portion of the State to adverse in the west and west-central portions, and fair in the east-central portion. Where diversification of crops was practiced, fair returns were realized, even where weather conditions were poorest. The lessons learned during the past three years of poor crop conditions in the western and central portions of the State will be reflected in the better crops during the years to come. The year opened mild and pleasant, January being one of the warmest and driest of record. Weather conditions in February and March were generally favorable, although the temperature in March was somewhat below normal. Mild temperature and ample precipitation prevailed in April, and at the close of the month crop conditions appeared propitious in all parts of the State, and this condition obtained to the close of May. During the first decade in June cool weather prevailed, but throughout the remainder of the month, as well as during July, August and September, the temperature averaged considerably above the normal, and crops suffered deterioration, especially during the latter part of June, all of July and the first decade of August. The precipitation during June to September, was greatly deficient, especially in central and western portions. Unseasonably low temperature prevailed in October, the mean being the lowest of record. As a result of freezing temperatures thousands of bushels of potatoes were destroyed by being unharvested, or improperly cared for in the fields or in pits. November was also unseasonably cold, with but one exception the coldest of record. Owing to the extreme cold and drifting snow, much feeding of livestock was necessitated during October and November, and losses from exposure and insufficient feed were numerous. December afforded considerable relief, the weather during the latter portion being mild and pleasant. As a result of improved conditions, livestock found much forage upon the ranges and harvested fields, and corn harvesting and flax threshing were completed.

The average precipitation for the State was 15.78 inches, or 2.16 inches below the normal, and 0.64 inch lower than the average for 1918. The greatest annual precipitation reported was 25.33 inches at Wahpeton, Richland County; the least was 7.07 inches at Bowman, Bowman County. The greatest monthly amount reported was 8.70 inches at Cando, Towner County, in June; there was none at Bowbells, Burke County, Lisbon, Ransom County, McClusky, Sheridan County, Melville, Foster County, Orange, Adams County, and Parshall, Mountrail County, in January, at Dunseith, Rolette County, in February and at Hettinger and Orange, Adams County, and New England, Hettinger County, in December. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.89 inches in 1917. The average snowfall for the State was 47.2 inches. The average number of days with 0.01 inch or more of precipitation was 60. There were 165 clear days, 107 partly cloudy, and 93 cloudy days. The prevailing wind was northwest.

The mean annual temperature was 38.6°, or 0.2° below the normal, and 1.3° lower than the mean for 1918. The highest mean annual temperature reported was 41.9° at Hettinger, Adams County; the lowest was 34.0° at Langdon, Cavalier County. The highest temperature reported was 108° at Berthold Agency, McLean County, on June 28th, and at Dickinson, Stark County, Dunn Center, Dunn County, and at Marmarth, Slope County, on June 29th; the lowest was −44° at Steele, Kidder County, on January 1st. The temperature averaged above the normal seven months, and below the normal five months. During the past twenty-eight years there have been thirteen warmer and fourteen colder years, the highest mean annual being 41.0° in 1900 and 1910. The lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was −56° at Goodall, McKenzie County, on January 12, 1916.

THE WEATHER BY MONTHS.

JANUARY.—January, 1919, was the warmest and one of the driest of record since the State climatological service was established in 1892. Although severe cold prevailed for the first three days of the month and about normal conditions for the remainder of the first week, the unusually mild weather for the rest of the month resulted in a mean temperature of 18.7°, which is 1.7° higher than the previous highest mean for January of 17.0° in 1908. The precipitation, which was practically all in the form of snow, was the third lightest of record for January. The snow cover was general and fairly heavy in many sections at the beginning of the month, but disappeared by the 20th in most western and southern localities, and at the end of the month the snow-covered areas were confined mostly to the northeastern and extreme northern portions. Much outdoor work was accomplished under these favorable conditions, and advantage was taken of the mild weather to allow livestock to graze and relieve the shortage of feeds and roughage. In the southwestern portion some field work, such as plowing and dragging, and even some wheat seeding, was done.

FEBRUARY.—Weather conditions during February approximated the normal in most respects. The temperature was near or slightly below the normal during the first eight days, above normal from the 9th to the 22d, inclusive, and much below normal during the remainder of the month. The precipitation, which was practically all in the form of snow, was considerably above normal in the southeastern portion, below normal over the extreme northern portion, and generally near normal over the rest of the State. The snow cover was confined mostly to the northeastern portion at the beginning of the month, and there was little additional snowfall until the 12th, when there was a general light fall, followed by a period of frequent snowfall from the 17th to the end of the month. Livestock grazed successfully on the ranges and farms during the greater portion of the month, but the snow interfered considerably during the latter half.

MARCH.—Except in the extreme southeastern portion, the temperature was below the normal for the month, varying from about eight degrees below normal in the north-central portion to slightly above normal in the extreme southeastern portion. The first five days were severely cold, but the remainder of the month produced no unusual departures from the normal. The amount of precipitation averaged about the normal, but was unevenly distributed, the greater portion of the Sheyenne Valley and a large area west of the Missouri River receiving less than one-half inch, while large areas in the central and extreme western portions received from one inch to more than two inches.

APRIL.—The temperature averaged slightly above the normal during the month, and there were no periods of unusually high or low temperature, although the day temperatures were considerably below normal during the first half of the month.

There was slightly more than the normal amount of precipitation, and the bulk of it occurred during the first eight days of the month, most of it being in the form of snow, which fell on the 7th and 8th. This snowfall was heaviest over the southern and extreme eastern portions of the State, where it ranged from five to fifteen inches in depth.

MAY.—During the first eight days of the month the weather was cool and generally cloudy, with frequent rains, the bulk of the precipitation of the month occurring during this period. Considerable snow fell in portions of the south-central part of the State during the period from the 3d to the 6th, inclusive. The second week was considerably warmer, and there was less cloudiness, but showery conditions prevailed until the 18th. The rainy weather of the first eight days of the month stopped farm work generally, and showery conditions interfered considerably until the 18th. Winter rye was unfavorably affected by the hot, dry weather of the latter part of the month, causing it to head short and thin in some western and central localities.

JUNE.—The first ten days of the month were cool, and freezing temperatures occurred in most northern and western localities during this period. During the remainder of the month the temperature was much above normal, resulting in a mean temperature for the month which is one of the highest of record for June. The rainfall was deficient generally, and irregularly distributed; it varied generally between two and three inches over the eastern and extreme northwestern portions, and averaged about one inch over the western portion, but extensive areas in the central and middle eastern portions had from four to over eight inches.

JULY.—The month was characterized by hot weather, with generally deficient rainfall and cloudiness. The temperature was above normal on nearly all days of the month, the daily excess averaging about four degrees. While the rainfall was generally deficient, excessive amounts were recorded in the extreme southeastern portion of the State, and in the Red River Valley, except the extreme northern portion.

AUGUST.—Moderately warm weather continued throughout the month; there were no periods of excessive heat, and few cool days. It was the third consecutive month with temperature above, and rainfall below normal.

SEPTEMBER.—The weather was generally mild and pleasant, favorable for all kinds of outdoor work, and as a result of these conditions farm work made excellent progress. With the exception of corn and potatoes, all crops were harvested at the close of the month, and much threshing was done. The first freezing temperatures occurred on the 25th, but as most crops were out of danger from frosts, practically no damage occurred.

OCTOBER.—The month was the coldest October in the climatological history of the State. The mean temperature for the State was 33.5°, which is 1.2° lower than the previous lowest October mean, 34.7° in 1917. During the first week of the month, however, the temperature was somewhat above normal, but a cold wave on the 9th brought the temperature much below normal, and this condition continued for the remainder of the month. During a second cold wave on the 26th, record-breaking minimum temperatures for October were recorded at many stations, the lowest reported being -18° at Zap.

NOVEMBER.—Excepting a warm, fair period from the 15th to the 23d, inclusive, the weather during the month was severely cold, with excessive snowfall. The bulk of the snowfall occurred during the first ten days of the month. A cold wave on the 24th was followed by continued cold weather until the end of the month.

DECEMBER.—Taken as a whole, December was fairly favorable. The month opened with temperature considerably below the normal, a condition that prevailed during the first seventeen days. The precipitation during this period, as well as throughout the month, was below the normal. Intense cold and drifting snow during the second decade caused much suffering and some losses to livestock and necessitating much feeding, impeded rail, auto and wagon traffic, and delayed outside work. During the latter half of the month, however, there was a rapid rise in temperature, and the snow mostly disappeared, allowing corn husking and flax threshing to be completed, and livestock to graze freely upon the ranges and harvested fields.

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	May 5	Sept. 25	Langdon	May 7	Sept. 25
Arnegard	June 2	Oct. 4	Larimore	" 5	" 25
Ashley	May 1	Sept. 25	Linton	" 1	Oct. 9
Beach	.....	" 28	Lisbon	" 5	Sept. 25
Berthold Agency	June 2	" 25	McHenry	" 5	" 25
Bierman	" 2	" 28	McKinney	" 7	" 25
Bismarck	May 7	Oct. 4	McLeod	" 5	.....
Bottineau	" 7	Sept. 25	Maddock	" 5	Sept. 25
Bowbells	June 2	" 25	Mandan	" 7	Oct. 4
Bowman	" 2	Oct. 4	Manfred	" 5	Sept. 25
Cando	.....	Sept. 29	Marmarth	June 2	Oct. 9
Carson	June 2	Oct. 4	Mayville	May 5	Sept. 25
Colgate	May 5	Sept. 24	Melville	" 15	" 24
Crosby	" 4	Oct. 4	Minot	June 2	" 25
Devils Lake	" 5	Sept. 25	Minto	May 5	" 25
Dickinson	June 2	Oct. 4	Mott	June 2	Oct. 9
Donnybrook	May 5	Sept. 25	Napoleon	May 5	Sept. 25
Dunn Center	June 2	Oct. 4	New England	June 2	Oct. 4
Dunseith	" 2	Sept. 25	New Salem	May 7	" 7
Eckman	" 2	" 25	Orange	June 2	.....
Edgeley	May 5	" 25	Park River	.....	Sept. 24
Ellendale	Apr. 28	" 25	Pembina	Apr. 25	Oct. 6
Fessenden	May 5	" 25	Pettibone	May 5	Sept. 25
Forman	" 5	" 25	Selfridge	.....	Oct. 10
Fryburg	June 2	Oct. 4	Sherwood	June 4	Sept. 25
Fullerton	Apr. 28	Sept. 25	Steele	.....	Oct. 9
Garrison	June 2	" 25	Taylor	May 4	" 4
Grafton	May 5	" 25	Towner	" 7	Sept. 25
Grand Forks	" 5	" 25	Turtle Lake	" 7	" 25
Grand Rapids	Apr. 28	.....	Valley City	.....	" 25
Granville	May 5	Sept. 25	Wahpeton	May 9	" 25
Hannah	June 2	" 25	Walhalla	June 3	" 24
Hansboro	May 7	" 25	Washburn	May 4	Oct. 9
Hettinger	June 2	" 27	Westhope	" 5	Sept. 25
Hillsboro	May 5	" 25	Williston	" 8	Oct. 4
Howard	June 2	Oct. 4	Willow City	June 2	Sept. 25
Jamestown	Apr. 25	Sept. 25	Zap	" 2	Oct. 4
Lakota	May 3	" 25	Moorhead, Minn.	May 5	" 10
Lamoine	June 2	" 25			

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−58	18.14	+0.20
1893	35.8	−3.0	112	−54	15.85	−2.09
1894	40.4	+1.6	107	−47	16.10	−1.84
1895	37.8	−1.0	104	−50	19.09	+1.15
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.46	−2.48
1899	36.3	−2.5	109	−48	17.93	−0.01
1900	41.0	+2.2	114	−48	19.05	+1.11
1901	40.4	+1.6	110	−43	18.48	+0.54
1902	39.6	+0.8	106	−39	17.61	−0.33
1903	38.4	−0.4	108	−49	19.30	+1.36
1904	38.0	−0.8	103	−52	19.19	+1.25
1905	39.3	+0.5	107	−46	20.88	+2.94
1906	39.5	+0.7	109	−40	20.53	+2.59
1907	37.0	−1.8	104	−49	14.89	−3.05
1908	40.6	+1.8	104	−41	18.79	+0.85
1909	38.2	−0.6	109	−48	17.77	−0.17
1910	41.0	+2.2	114	−50	12.34	−5.60
1911	38.3	−0.5	108	−43	19.09	+1.15
1912	38.2	−0.6	124	−52	20.50	+2.56
1913	40.1	+1.3	106	−54	14.92	−3.02
1914	40.0	+1.2	109	−47	19.21	+1.27
1915	39.6	+0.8	104	−48	19.51	+1.57
1916	36.0	−2.8	105	−56	20.32	+2.38
1917	36.3	−2.5	114	−48	10.89	−7.05
1918	39.9	+1.1	102	−44	16.42	−1.52
1919	38.6	−0.2	108	−44	15.78	−2.16

Climatological Data for the Year 1919.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).						Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	24	39.1	99	July 26	−36	Jan. 3	24	20.90	4.35	May	0.30	Mar.	66.5	63	170	114	81	n.
Arnegard	McKenzie	.....	1	.....	105	July 17	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.
Ashley	McIntosh	2,001	23	40.4	98	July 26	−34	Jan. 3	23	16.63	3.03	July	0.20	Jan.	59.0	48	.....	.....	.....	nw.
Beach	Golden Valley	2,576	14	.....	109	July 17	−35	Jan. 3†	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berthold Agency	McLean	2,082	26	41.0	108	June 28	−39	Jan. 3	26	12.28	2.71	May	T.	Jan.	24.9	59	.....	.....	.....	nw.
Bierman	Slope	.....	4	.....	105	June 29	.....	.....	4	.....	3.70	Apr.	.....	.....	.....	.....	.....	.....	.....	nw.
Bismarck	Burleigh	1,674	45	40.9	100	July 17	−35	Jan. 1	45	12.98	4.06	May	0.09	Jan.	56.8	77	130	130	105	nw.
Bottineau	Bottineau	1,638	28	35.9	103	July 17	−38	Dec. 9	28	11.09	3.15	Aug.	0.28	Jan.	.....	92	.....	.....	.....	nw.
Bowbells	Burke	1,958	8	35.0	101	July 17	−39	Jan. 2	8	14.08	3.18	June	0.00	Jan.	.....	42	.....	.....	.....	.....
Bowman	Bowman	.....	5	41.6	106	June 29	−36	Feb. 28	5	7.07	1.30	June	0.03	Dec.	44.9	61	159	101	105	nw.
Cando	Towner	1,488	17	.....	98	Aug. 19	.....	.....	19	.....	8.70	June	.....	.....	.....	.....	.....	.....	.....	.....
Carson	Grant	2,500	8	39.9	103	July 22	−36	Jan. 3	8	13.81	2.50	May	0.10	Jan.	43.4	63	189	106	70	nw.
Colgate	Steele	1,177	5	37.4	95	July 16†	−38	Jan. 3	6	20.14	3.35	Aug.	0.50	Oct.	56.5	52	.....	.....	.....	nw.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	5	19.70	4.35	May	T.	Jan.	46.0	46	205	112	48	nw.
Crosby	Divide	1,954	12	37.3	97	July 17	−32	Jan. 3	12	14.17	3.67	July	0.15	Jan.	28.5	56	156	137	72	sw.
Devils Lake	Ramsey	1,478	15	36.5	96	Aug. 19	−34	Jan. 3	15	17.67	3.58	June	0.22	Jan.	51.5	85	137	103	125	w.
Dickinson	Stark	2,543	28	41.4	108	June 29	−37	Feb. 28	28	8.37	2.49	May	T.	Jan.	.....	74	175	102	88	nw.
Donnybrook	Ward	1,760	16	39.3	105	July 17	−37	Dec. 8	21	13.64	2.97	May	T.	Jan.	25.5	49	.....	.....	.....	nw.
Dunn Center	Dunn	2,191	1	.....	108	June 29	.....	.....	2	8.01	2.07	May	0.15	Jan.	33.4	35	200	85	80	nw.
Dunseith	Rolette	1,682	24	35.9	101	July 17	−37	Dec. 9	24	15.82	5.13	Aug.	0.35	Jan. †	32.2	.....	168	98	99	nw.
Eckman	Bottineau	.....	14	36.1	103	July 17	−41	Jan. 3	14	11.68	2.49	May	T.	Jan.	.....	51	201	91	73	nw.
Edgeley	LaMoure	1,468	19	40.4	99	July 26	−31	Jan. 3	19	17.65	4.74	June	0.10	Jan.	.....	73	58	190	117	nw.
Ellendale	Dickey	1,449	2	40.0	97	July 26	−33	Jan. 3	2	19.74	5.22	May	0.06	Jan.	51.3	86	93	127	145	nw.
Energy	McLean	1,750	.....	.....	.....	.....	.....	.....	7	10.16	2.49	May	0.02	Dec.	.....	62	.....	.....	.....	nw.
Epping	Williams	2,224	.....	.....	.....	.....	.....	.....	12	14.51	2.79	May	0.12	Dec.	55.0	44	202	117	46	nw.
Fessenden	Wells	1,610	8	37.0	99	July 17	−41	Jan. 3	8	16.51	3.52	June	0.25	Jan.	51.5	65	193	82	90	nw.
Forman	Sargent	1,249	28	.....	100	July 25†	.....	.....	28	.....	4.22	July	.....	.....	.....	.....	.....	.....	.....	.....
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	1	12.61	3.63	Oct.	0.10	Jan.	64.0	50	146	151	68	nw.
Fullerton	Dickey	1,439	22	41.0	95	July 26	−34	Jan. 3	22	25.18	5.25	July	0.15	Jan.	68.0	55	166	100	99	nw.
Garrison	McLean	1,901	25	38.7	101	July 17	−33	Jan. 3	25	13.09	3.54	May	0.05	Jan.	39.1	59	158	132	75	nw.
Grafton	Walsh	827	28	37.1	100	Aug. 19	−36	Jan. 3	28	17.20	3.49	May	0.23	Jan. †	44.2	65	.....	.....	.....	nw.
Grand Forks	Grand Forks	830	28	37.0	95	Aug. 19	−36	Jan. 1†	28	23.01	4.62	May	0.22	Dec.	50.3	91	164	99	102	nw.
Grand Rapids	LaMoure	1,321	9	.....	97	July 26	−40	Jan. 3†	9	.....	6.10	July	.....	.....	.....	.....	.....	.....	.....	.....
Granville	McHenry	1,504	13	38.0	102	July 17	−40	Jan. 1	13	16.91	2.30	May	0.61	Apr.	.....	71	135	141	89	nw.
Hannah	Cavalier	1,568	13	.....	98	Aug. 19	−40	Feb. 26	13	18.67	3.46	June	T.	Jan.	53.0	57	.....	.....	.....	nw.
Hansboro	Towner	1,597	12	35.0	101	July 25	−37	Jan. 3†	12	18.06	3.00	June	0.36	Feb.	48.5	61	.....	.....	.....	nw.
Hettinger	Adams	2,253	12	41.9	104	June 29	−35	Feb. 28	12	12.97	4.23	Apr.	0.00	Dec.	.....	46	269	38	58	nw.
Hillsboro	Traill	901	14	38.4	93	July 1†	−36	Jan. 3	14	22.52	5.65	Aug.	0.25	Jan.	48.4	82	131	176	58	n.
Howard	Williams	2,275	11	.....	101	June 15	−36	Jan. 2†	11	.....	.....	.....	T.	Jan.	.....	.....	.....	.....	.....	.....
Jamestown	Stutsman	1,390	28	40.4	96	July 17	−32	Jan. 3	28	21.69	6.74	June	0.39	Oct.	57.8	68	.....	.....	.....	nw.
Lakota	Nelson	1,579	19	.....	96	Aug. 19	−38	Jan. 3	19	.....	3.80	May	.....	.....	.....	.....	.....	.....	.....	nw.
Lamoine	Kidder	1,936	12	37.4	99	July 17	−39	Jan. 3	12	13.61	4.06	May	0.10	Jan.	45.0	45	.....	.....	.....	nw.
Langdon	Cavalier	1,615	24	34.0	98	July 25	−42	Jan. 3	24	18.23	4.38	Aug.	0.25	Jan.	60.7	69	.....	.....	.....	nw.
Larimore	Grand Forks	1,134	25	37.6	97	Aug. 19	−36	Jan. 3	25	25.32	6.68	May	0.32	Jan.	69.8	66	.....	.....	.....	n.
Linton	Emmons	1,711	1	.....	104	June 28	.....	.....	1	.....	5.11	May	.....	.....	.....	.....	.....	.....	.....	.....
Lisbon	Ransom	1,091	16	.....	97	July 17	−35	Jan. 3	16	20.40	4.29	May	0.00	Jan.	56.0	51	.....	.....	.....	nw.
McClusky	Sheridan	1,943	.....	.....	.....	.....	.....	.....	2	13.25	3.80	May	0.00	Jan.	37.5	51	.....	.....	.....	nw.
McHenry	Foster	1,509	10	37.6	94	Aug. 19	−40	Jan. 3	10	24.69	6.72	May	0.15	Jan.	75.4	66	221	90	54	nw.
McKinney	Renville	1,640	26	36.9	101	July 17	−32	Jan. 2†	26	16.19	2.79	June	0.10	Jan.	46.5	39	.....	.....	.....	nw.
McLeod	Ransom	1,075	7	.....	98	July 17†	−35	Jan. 3	8	22.06	4.42	July	0.27	Dec.	.....	70	215	63	87	nw.
Maddock	Benson	1,604	5	36.9	100	July 17	−38	Jan. 3	5	13.70	2.95	May	0.31	Oct.	.....	36	122	131	112	nw.
Mandan	Morton	1,644	6	40.4	103	July 17	−36	Jan. 1	7	13.92	3.70	May	0.08	Jan.	.....	83	.....	.....	.....	.....
Manfred	Wells	1,605	17	37.7	98	July 17	−37	Jan. 3	17	17.23	5.08	June	0.07	Jan.	40.9	72	.....	.....	.....	nw.
Marmarth	Slope	.....	7	.....	108	June 29	−30	Jan. 3	11	8.17	1.38	Oct.	0.09	Jan.	42.2	70	144	105	116	w.
Mayville	Traill	975	24	39.5	97	July 18†	−36	Jan. 3	24	21.15	5.18	May	0.16	Jan.	.....	76	188	58	119	nw.
Melville	Foster	1,590	22	38.6	98	July 17†	−42	Jan. 3	22	15.73	3.84	May	0.00	Jan.	54.0	39	.....	.....	.....	nw.
Minot	Ward	1,557	21	36.7	103	July 17	−40	Jan. 3	24	17.86	3.18	Sept.	0.22	Jan.	63.4	65	.....	.....	.....	nw.
Minto	Walsh	820	27	.....	100	Aug. 19	−33	Jan. 1†	27	.....	3.93	May	.....	.....	.....	.....	.....	.....	.....	se.
Mott	Hettinger	2,424	13	40.9	105	June 29	−37	Feb. 28	13	17.31	3.12	May	0.25	Dec.	47.0	78	144	112	109	nw.
Napoleon	Logan	1,955	28	39.3	100	July 22	−40	Jan. 3	28	14.01	4.18	May	0.05	Jan.	48.5	64	148	89	128	se.
New England	Hettinger	2,400	26	.....	103	June 28	−29	Jan. 3	26	.....	1.94	May	0.00	Dec.	.....	.....	.....	.....	.....	nw.
New Salem	Morton	2,163	15	40.0	101	June 29	−32	Jan. 2	15	13.68	2.50	May	0.01	Jan.	63.6	70	167	119	79	nw.
Orange	Adams	2,586	11	.....	103	June 29	−40	Feb. 28	11	.....	2.12	June	0.00	Jan. †	.....	.....	.....	.....	.....	.....
Park River	Walsh	998	16	.....	98	Aug. 19	−33	Jan. 3	16	.....	.....	.....	0.15	Jan.	.....	.....	.....	.....	.....	nw.
Parshall	Mountrail	.....	.....	.....	.....	.....	.....	.....	4	.....	3.29	May	0.00	Jan.	.....	.....	.....	.....	.....	.....
Pembina	Pembina	789	40	36.2	100	July 16	−38	Jan. 3	46	12.80	2.24	Aug.	0.02	Feb.	.....	64	.....	.....	.....	sw.
Pettibone	Kidder	1,856	1	.....	99	July 17	.....	.....	1	.....	3.95	May	.....	.....	.....	.....	.....	.....	.....	.....
Power	Richland	1,020	.....	.....	.....	.....	.....	.....	26	17.48	3.97	July	0.29	Sept.	.....	69	.....	.....	.....	.....
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	5	15.12	2.95	Apr.	0.20	Jan.	48.0	47	145	106	114	nw.
Selfridge	Sioux	.....	.....	.....	.....	.....	.....	.....	1	16.52	4.53	May	0.03	Dec.	42.5	52	.....	.....	.....	nw.
Sherwood	Renville	1,500	.....	.....	.....	.....	.....	.....	1	.....	3.32	July	.....	.....	.....	.....	.....	.....	.....	.....
Steele	Kidder	1,857	23	.....	99	July 17	−44	Jan. 1	24	19.82	7.74	May	0.15	Dec.	52.0	64	.....	.....	.....	.....
Taylor	Stark	2,493	4	38.9	102	June 29	−34	Feb. 28	4	8.82	2.52	Apr.	0.02	Dec.	.....	49	.....	.....	.....	se.
Towner	McHenry	1,482	18	37.4	103	July 17	−42	Jan. 3	18	13.29	2.43	Sept.	0.25	July	48.0	38	211	81	73	nw.
Turtle Lake	McLean	1,899	5	.....	102	July 17	.....	.....	5	.....	3.37	May	.....	.....	.....	.....	.....	.....	.....	.....
Valley City	Barnes	1,245	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wahpeton	Richland	962	26	40.8	101	July 26	−36	Jan. 3	26	25.33	5.37	May	0.26	Jan.	.....	84	.....	.....	.....	nw.
Walhalla	Pembina	966	13	37.6	101	Aug. 19	−35	Jan. 3	13	13.53	2.60	May	0.25	Feb.	58.5	47	208	101	56	n.
Washburn	McLean	1,734	21	.....	98	July 25	.....	.....	21	.....	5.18	June	.....	.....	.....	.....	.....	.....	.....	nw.
Westhope	Bottineau	1,508	14	36.8	103	July 17	−37	Jan. 3	14	13.28	2.40	Nov.	T.	Jan. †	.....	40	188	93	84	nw.
Williston	Williams	1,875	41	39.4	101	July 17	−30	Jan. 2	41	13.42	2.64	June	0.07	Jan.	32.4	78	127	157	81	sc.
Willow City	Bottineau	1,471	28	35.1	103	July 17	−40	Jan. 3	28	13.80	2.45	May	0.50	Jan.	66.0	58	.....	.....	.....	nw.
Zap	Mercer	1,800	7	.....	106	June 29	−38	Jan. 3	7	.....	2.66	May	T.	Jan.	.....	.....	.....	.....	.....	nw.
Moorhead, Minn.	Clay	935	39	40.0	99	July 26	−35	Jan. 3	39	23.75	5.56	July	0.21	Jan.	43.9	104	188	78	99	sc.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

† Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1919, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.37	−0.10	1.40	+1.02	0.30	−0.32	0.70	−1.29	4.35	+1.53	2.42	−1.59	2.59	−0.59	2.67	−0.14	1.49	−0.52	0.74	−0.60	2.77	+2.31	1.10	+0.68	20.90	+0.39
Arnegard	.....	.....	.....	.....	.....	.....	.....	.....	1.34	.....	1.18	.....	0.16	.....	2.61	.....	0.53	.....	1.33	.....	0.40	.....	0.03	.....	.....	.....
Ashley	0.20	−0.35	1.40	+0.95	0.70	−0.56	1.50	−0.52	2.31	−0.17	2.86	−0.60	3.03	+0.39	1.03	−1.29	0.09	−0.96	2.11	+1.07	1.00	+0.50	0.40	−0.11	16.63	−1.65
Beach	0.20	−0.44	0.19	−0.33	1.78	+1.17	.....	.....	.....	.....	0.90	−2.91	0.50	−1.34	0.30	−1.75	0.48	−0.88	1.06	+0.14	.....	.....	.....	.....	.....	.....
Berthold Agency	T.	−0.41	0.45	−0.13	0.46	−0.39	1.30	+0.18	2.71	+0.15	0.84	−3.29	1.16	−0.78	1.52	−0.26	1.70	+0.25	1.00	+0.11	0.46	−0.05	0.68	+0.29	12.28	−4.33
Bierman	0.15	.....	0.44	.....	0.93	.....	3.70	.....	1.40	.....	0.98	.....	1.14	.....	0.04	.....	0.77	.....	1.60	.....	1.12	.....	.....	.....	.....	.....
Bismarck	0.09	−0.45	0.63	+0.13	1.17	+0.13	1.71	−0.17	4.06	+1.56	0.63	−2.91	0.76	−1.38	1.46	−0.52	0.34	−0.85	0.98	−0.05	0.92	+0.24	0.23	−0.39	12.98	−4.66
Bottineau	0.28	−0.17	0.36	−0.02	0.42	−0.42	0.74	−0.15	1.61	−0.50	1.30	−1.93	0.71	−1.67	3.15	+1.14	0.96	−0.70	0.84	−0.20	0.40	−0.15	0.32	−0.18	11.09	−4.95
Bowbells	0.00	.....	0.30	.....	0.80	.....	1.48	.....	2.06	.....	3.18	.....	2.11	.....	0.61	.....	0.65	.....	1.32	.....	0.91	.....	0.66	.....	14.08	.....
Bowman	0.04	.....	0.18	.....	0.49	.....	1.15	.....	0.67	.....	1.30	.....	0.70	.....	0.24	.....	0.46	.....	1.19	.....	0.62	.....	0.03	.....	7.07	.....
Cando	.....	.....	0.39	+0.15	0.64	−0.04	0.99	+0.08	2.58	+0.14	8.70	+4.93	1.30	−1.31	2.33	+0.06	1.12	−0.37	0.24	−0.56	0.67	+0.21	0.60	+0.25	.....	.....
Carson	0.10	.....	0.64	.....	0.45	.....	2.35	.....	2.50	.....	1.73	.....	1.70	.....	1.26	.....	0.80	.....	1.04	.....	1.10	.....	0.14	.....	13.81	.....
Colgate	0.60	.....	0.55	.....	1.00	.....	1.15	.....	3.34	.....	2.93	.....	2.95	.....	3.35	.....	1.17	.....	0.50	.....	2.00	.....	0.60	.....	20.14	.....
Cooperstown	T.	−0.51	0.20	−0.16	0.30	−0.35	1.20	+0.20	4.35	+2.34	3.45	−0.24	3.15	+0.33	3.05	+0.68	0.50	−1.22	0.50	−0.50	1.70	+1.32	1.30	+0.88	19.70	+2.77
Crosby	0.15	−0.42	0.50	+0.26	0.45	−0.21	1.10	+0.08	2.38	+0.32	2.25	−0.77	3.67	+1.75	1.37	−1.00	0.78	−0.46	0.98	+0.25	0.34	−0.51	0.20	−0.38	14.17	−1.09
Devils Lake	0.22	−0.38	0.70	+0.17	1.49	+0.48	1.14	−0.89	3.47	+1.27	3.58	+0.05	1.76	−2.02	2.28	−0.48	0.95	−0.44	0.65	−0.58	1.01	+0.30	0.42	+0.03	17.67	−2.49
Dickinson	T.	−0.42	0.67	+0.23	0.51	−0.38	1.28	+0.07	2.49	0.00	0.52	−2.63	0.53	−1.87	0.59	−1.36	0.70	−0.38	0.58	−0.21	0.34	−0.17	0.16	−0.28	8.37	−7.40
Donnybrook	T.	−0.40	0.60	+0.04	0.50	−0.28	2.40	+1.45	2.97	+0.64	2.26	−0.65	0.72	−2.08	0.37	−1.79	0.97	−0.86	2.52	+1.55	0.13	−0.47	0.20	−0.29	13.64	−3.14
Dunn Center	0.15	.....	0.35	.....	0.55	.....	1.25	.....	2.07	.....	0.75	.....	0.21	.....	0.29	.....	0.66	.....	1.00	.....	0.43	.....	0.30	.....	8.01	.....
Dunseith	0.35	−0.13	0.52	+0.08	0.70	−0.13	0.98	+0.18	2.42	+0.75	1.54	−1.47	0.69	−1.75	5.13	+2.84	1.62	−0.02	0.92	+0.15	0.35	−0.06	0.60	+0.19	15.82	+0.63
Eckman	T.	−0.61	0.23	−0.16	0.57	+0.12	1.17	+0.14	2.49	+0.25	1.26	−1.67	0.47	−2.10	1.54	−0.70	0.82	−0.42	1.47	+0.63	0.96	+0.49	0.70	+0.08	11.68	−3.95
Edgeley	0.10	−0.20	0.42	+0.08	0.73	−0.16	1.29	−0.62	4.00	+1.35	4.74	+1.34	3.68	+0.94	0.46	−1.85	0.33	−1.43	1.18	+0.19	0.43	+0.12	0.29	−0.12	17.65	−0.36
Ellendale	0.06	−0.60	0.74	+0.12	0.71	−0.56	2.23	+0.23	5.22	+2.44	2.91	−0.49	4.17	+1.27	0.68	−1.84	0.19	−1.39	1.50	+0.33	0.95	+0.25	0.38	0.30	19.74	−0.54
Energy	0.07	.....	0.47	.....	0.54	.....	1.22	.....	2.49	.....	1.58	.....	0.42	.....	1.35	.....	0.72	.....	0.80	.....	0.48	.....	0.02	.....	10.16	.....
Epping	0.20	−0.39	0.33	−0.03	1.03	+0.60	1.15	−0.04	2.79	+0.57	1.57	−1.56	1.38	−0.60	0.40	−2.00	1.76	+0.35	2.12	+1.35	1.66	+1.32	0.12	−0.36	14.51	−0.79
Fessenden	0.25	.....	0.95	.....	0.70	.....	1.30	.....	2.97	.....	3.52	.....	0.72	.....	2.02	.....	0.88	.....	0.80	.....	1.59	.....	0.90	.....	16.50	.....
Forman	0.10	−0.46	1.65	+1.15	0.48	−0.44	1.70	−0.53	3.86	+0.96	1.62	−2.12	4.22	+1.21	0.06	−2.74	0.06	−1.89	1.23	−0.15	.....	.....	.....	.....	.....	.....
Fryburg	0.10	.....	0.54	.....	0.86	.....	1.70	.....	2.06	.....	0.70	.....	0.85	.....	0.57	.....	0.62	.....	3.63	.....	0.62	.....	0.36	.....	12.61	.....
Fullerton	0.15	−0.63	1.90	+1.10	0.74	−0.54	1.51	−0.46	7.02	+3.93	2.92	−0.42	5.25	+2.08	0.94	−1.79	0.35	−1.76	2.91	+0.69	1.89	+1.31	0.50	−0.36	25.18	+3.15
Garrison	0.05	−0.42	1.39	+0.87	0.61	−0.45	1.28	+0.10	3.54	+1.43	1.64	−1.73	1.12	−0.96	0.48	−1.54	1.29	−0.09	1.24	+0.31	0.31	−0.29	0.14	−0.46	13.09	−3.23
Grafton	0.23	−0.38	0.47	−0.12	0.57	−0.14	1.38	−0.11	3.49	+1.41	2.46	−0.88	1.98	−0.52	2.71	+0.09	0.89	−0.90	0.75	−0.16	2.04	+1.45	0.23	−0.32	17.20	−0.58
Grand Forks	0.45	−0.11	0.45	−0.10	0.71	−0.03	1.73	−0.24	4.62	+2.17	2.39	−1.20	4.16	+1.46	2.68	+0.52	2.23	+0.44	0.82	−0.42	2.25	+1.63	0.22	−0.37	23.01	+3.75
Grand Rapids	0.05	.....	1.20	.....	0.35	.....	1.51	.....	4.71	.....	2.65	.....	6.16	.....	1.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granville	0.66	+0.25	1.20	+0.86	1.52	+1.04	0.61	−0.38	2.30	+0.44	2.23	−0.69	0.59	−1.51	1.34	−0.85	1.80	+0.45	1.64	+0.76	1.92	+1.50	1.10	+0.61	16.91	+2.48
Hannah	T.	−0.71	0.60	+0.04	1.11	+0.46	0.77	−0.55	2.31	+0.20	3.46	+0.01	1.82	−0.65	2.62	+0.76	2.49	+0.35	1.29	+0.31	1.70	+1.11	0.50	−0.08	18.67	+1.25
Hansboro	0.53	−0.36	0.36	−0.14	1.22	+0.62	1.53	+0.19	2.09	−0.11	3.00	+0.62	0.97	−1.17	2.77	+0.59	2.73	+0.93	1.35	+0.45	1.11	+0.70	0.40	−0.30	18.06	+2.02
Hettinger	T.	−0.36	0.10	−0.21	2.63	+2.00	4.23	+3.50	1.63	−0.60	1.22	−2.29	1.80	−1.00	0.18	−1.23	0.34	−1.20	0.34	−0.36	0.50	+0.16	0.00	−0.40	12.97	−1.99
Hillsboro	0.25	−0.50	0.42	−0.34	0.67	−0.17	1.21	−0.90	4.19	+0.62	1.88	−1.68	4.01	+1.23	5.65	+2.80	0.93	−1.81	0.59	−0.43	2.12	+1.42	0.60	−0.35	22.52	−0.11
Howard	T.	−0.82	1.20	+0.49	1.41	+0.23	.....	.....	1.92	−0.21	2.17	−0.71	1.60	+0.04	2.10	+0.56	0.94	−0.49	1.24	+0.42	0.20	−0.35	0.39	−0.46	.....	.....
Jamestown	0.55	−0.10	1.05	+0.46	0.55	−0.53	1.14	−0.62	4.29	+1.62	6.74	+3.05	2.32	−0.42	1.36	−1.22	0.85	−0.68	0.39	−0.60	1.55	+0.88	0.90	+0.18	21.69	+2.02
Lakota	0.47	−0.20	0.71	+0.12	0.55	−0.02	1.95	+0.39	3.80	+1.73	1.83	−1.63	0.74	−2.20	1.43	−0.98	1.03	−0.15	.....	.....	.....	.....	.....	.....	.....	.....
Lamoine	0.10	−0.51	1.20	+0.86	1.40	+0.61	1.38	+0.48	4.06	+1.87	2.22	−1.23	0.11	−2.46	1.12	−0.82	0.22	−1.29	0.20	−0.50	1.00	+0.46	0.60	+0.13	13.61	−2.40
Langdon	0.25	−0.36	0.90	+0.22	1.10	+0.23	0.60	−0.77	2.68	+0.38	3.20	−0.42	0.71	−1.95	4.38	+1.72	0.97	−1.07	1.02	+0.03	1.92	+1.33	0.50	−0.26	18.23	−0.92
Larimore	0.32	−0.37	0.61	+0.15	0.16	−0.60	2.32	+0.77	6.68	+4.34	2.64	−0.95	3.36	+0.37	3.19	+0.54	1.25	−0.46	0.89	−0.35	3.40	+2.85	0.50	−0.02	25.32	+6.27
Linton	.....	.....	.....	.....	.....	.....	1.21	.....	5.11	.....	1.19	.....	1.95	.....	1.00	.....	0.20	.....	1.25	.....	0.80	.....	0.11	.....	.....	.....
Lisbon	0.00	−0.72	1.20	+0.41	0.38	−0.19	1.08	−0.92	4.29	+1.03	2.51	−1.95	4.04	+0.56	2.78	+0.53	0.52	−1.73	0.70	−0.44	2.90	+2.42	T.	−0.48	20.40	−1.48
McClusky	0.00	.....	0.45	.....	0.85	.....	1.04	.....	3.80	.....	2.28	.....	1.12	.....	0.72	.....	0.64	.....	0.45	.....	1.25	.....	0.65	.....	13.25	.....
McHenry	0.15	.....	0.24	.....	1.03	.....	2.15	.....	6.72	.....	4.33	.....	1.02	.....	3.70	.....	0.52	.....	0.63	.....	1.80	.....	2.40	.....	24.69	.....
McKinney	0.10	−0.29	0.20	−0.10	1.10	+0.36	2.17	+1.34	2.41	+0.41	2.79	−0.55	2.05	+0.01	1.55	−0.12	0.55	−0.99	2.37	+1.54	0.50	−0.13	0.40	−0.02	16.19	+1.46
McLeod	0.30	.....	0.90	.....	0.75	.....	2.06	.....	4.22	.....	3.78	.....	4.42	.....	1.54	.....	0.31	.....	1.34	.....	2.17	.....	0.27	.....	22.06	.....
Maddock	0.36	.....	0.33	.....	0.94	.....	1.25	.....	2.95	.....	2.02	.....	0.92	.....	2.06	.....	1.49	.....	0.31	.....	0.75	.....	0.32	.....	13.70	.....
Mandan	0.08	.....	0.68	.....	0.95	.....	1.31	.....	3.90	.....	1.17	.....	0.85	.....	1.22	.....	0.49	.....	0.83	.....	1.19	.....	0.25	.....	13.92	.....
Manfred	0.07	−0.60	0.59	+0.14	0.75	−0.07	1.46	+0.20	3.26	+0.89	5.08	+1.44	1.23	−1.02	1.26	−1.00	0.96	−0.51	0.55	−0.35	1.12	+0.47	0.90	+0.13	17.23	−0.28
Marmarth	0.09	−0.19	0.58	+0.25	0.30	−0.08	1.11	+0.01	0.66	−1.83	1.19	−2.24	0.23	−1.59	0.78	−1.00	0.94	−0.33	1.38	+0.63	0.76	+0.49	0.15	−0.19	8.17	−6.07
Mayville	0.16	−0.34	0.39	−0.01	0.74	−0.01	1.17	−0.63	5.18	+2.26	2.62	−1.02	3.18	+0.10	3.70	+0.94	0.93	−1.35	0.26	−0.92	1.94	+1.32	0.82	+0.27	21.15	+0.61
Melville	0.00	−0.38	1.30	+0.99	0.40	−0.28	1.25	+0.18	3.84	+1.38	2.96	−0.65	0.84	−2.06	1.70	−0.29	0.68	−0.76	0.56	−0.35	1.60	+1.18	0.60	+0.19	15.73	−0.85
Minot	0.22	−0.24	0.80	+0.33	1.62	+0.90	1.56	+0.26	3.11	+1.13	2.02	−1.38	0.43	−1.46	0.99	−1.26	3.18	+1.60	1.88	+0.94	1.25	+0.66	0.80	+0.35	17.86	+1.83
Minto	0.14	−0.37	0.58	+0.08	0.64	−0.21	1.62	+0.05	3.93	+1.59	3.60	+0.21	3.30	+0.49	2.43	−0.04	0.86	−1.14	0.92	−0.22	2.68	+2.14	.....	.....	.....	.....
Mott	0.50	−0.42	0.68	+0.13	1.09	+0.10	2.01	+0.59	3.12	+0.77	2.14	−1.30	2.23	−0.15	2.05	+0.44	1.25	−0.32	1.13	+0.01	0.86	+0.42	0.25	−0.37	17.31	−0.10
Napoleon	0.05	−0.43	1.00	+0.60	0.90	−0.05	1.27	−0.39	4.18	+1.78	1.78	−1.97	1.57	−0.91	0.95	−1.47	0.66	−0.63	1.00	+0.03	0.30	−0.32	0.35	−0.15	14.01	−3.91
New England	0.02	−0.44	.....	.....	.....	.....	1.50	+0.55	1.94	−0.28	1.07	−1.70	0.74	−1.29	0.78	−1.04	0.60	−0.57	0.80	+0.14	0.60	+0.10	0.00	−0.44	.....	.....
New Salem	0.01	−0.66	0.65	+0.27	0.73	−0.23	1.63	+0.45	2.50	+0.04	1.31	−2.74	0.76	−1.43	2.48	+0.78	0.83	−0.62	0.98	−0.07	1.37	+1.06	0.43	−0.07	13.68	−3.22
Orange	0.00	−0.36	0.50	−0.10	0.60	−0.31	1.53	+0.50	1.78	−0.77	2.12	−1.21	1.09	−0.82	0.54	−0.90	.....	.....	.....	.....	0.69	+0.20	0.00	−0.61	.....	.....
Park River	0.15	−0.32	0.26	+0.20	0.20	−0.37	0.67	−0.70	2.52	+0.31	.....	.....	0.73	−1.71	2.96	+0.63	0.90	−0.66	0.73	−0.31	1.49	+0.75	0.21	−0.36	.....	.....
Parshal	0.00	.....	0.70	.....	0.20	.....	.....	.....	3.29	.....	0.93	.....	0.53	.....	0.52	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Pembina	0.31	−0.34	0.02	−0.74	1.98	+1.04	0.70	−0.86	1.16	−1.27	2.21	−1.37	0.82	−1.76	2.24	−0.09	1.00	−0.80	0.50	−0.99	1.66	+0.97	0.20	−0.65	12.80	−6.86
Pettibone	.....	.....	.....	.....	.....	.....	1.41	.....	3.95	.....	1.44	.....	1.27	.....	0.83	.....	0.35	.....	0.15	.....	1.20	.....	0.70	.....	.....	.....
Power	0.45	−0.18	0.85	+0.29	0.50	−0.22	1.69	−0.18	3.48	+0.59	1.54	−2.48	3.97	+0.58	1.41	−1.16	0.29	−1.73	1.08	−0.42	1.42	+0.83	0.80	+0.30	17.48	−3.78
Powers Lake	0.20	.....	0.50	.....	0.85	.....	2.95	.....	1.31	.....	2.09	.....	2.37	.....	0.58	.....	1.28	.....	1.79	.....	0.55	.....	0.65	.....	15.12	.....
Selfridge	0.12	−0.41	1.34	+0.70	2.35	+1.33	2.42	+0.75	4.53	+2.76	0.24	−3.42	2.38	−0.14	0.92	−1.05	0.46	−0.51	1.45	+0.66	0.28	−0.25	0.03	−0.40	16.52	+0.02
Sherwood	.....	.....	.....	.....	.....	.....	2.07	.....	2.36	.....	2.65	.....	3.32	.....	2.94	.....	1.11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	0.40	−0.06	1.07	+0.65	0.67	−0.26	1.30	+0.22	7.74	+5.46	2.16	−1.23	1.94	−0.87	0.76	−1.50	1.49	+0.22	1.61	+0.75	0.50	−0.04	0.18	−0.34	19.82	+3.00
Taylor	0.33	.....	0.18	.....	0.08	.....	2.52	.....	1.90	.....	1.25	.....	0.85	.....	0.42	.....	0.29	.....	0.54	.....	0.44	.....	0.02	.....	8.82	.....
Towner	0.40	−0.08	0.80	+0.44	0.90	+0.02	0.55	−0.63	2.35	−0.05	1.44	−1.80	0.25	−2.14	1.71	−0.34	2.43	+0.77	0.76	−0.20	1.20	+0.75	0.50	+0.09	13.29	−3.17
Turtle Lake	.....	.....	.....	.....	.....	.....	1.13	.....	3.37	.....	2.98	.....	0.51	.....	0.59	.....	0.82	.....	0.51	.....	0.90	.....	0.79	.....	.....	.....
Valley City	.....	.....	1.00	+0.67	.....	.....	.....	.....	3.77	+0.82	.....	.....	.....	.....	0.48	−1.99	0.44	−1.28	0.32	−0.60	1.65	+1.13	0.85	+0.34	.....	.....
Wahpeton	0.26	−0.24	0.40	−0.16	0.80	−0.14	2.54	+0.33	5.37	+2.69	4.07	+0.13	4.43	+0.59	2.30	−0.74	0.59	−1.71	1.92	+0.37	1.75	+1.12	0.90	+0.44	25.33	+2.68
Walhalla	0.50	−0.35	0.25	−0.26	0.80	+0.12	0.93	−0.37	2.60	−0.04	1.49	−1.67	1.25	−1.83	1.65	−0.83	0.62	−1.23	1.84	+0.83	1.00	+0.46	0.60	−0.49	13.53	−5.66
Washburn	.....	.....	.....	.....	.....	.....	.....	.....	4.09	+1.78	5.18	+1.62	0.89	−1.36	0.40	−0.86	1.19	−0.05	1.25	+0.30	0.97	+0.35	0.49	+0.20	.....	.....
Westhope	T.	−0.45	T.	−0.23	0.50	−0.01	0.97	−0.17	2.39	+0.33	2.07	−0.91	1.80	−0.17	1.43	−0.76	0.53	−0.83	0.32	−0.42	2.40	+1.95	0.87	+0.52	13.28	−1.15
Williston	0.07	−0.51	1.02	+0.55	1.08	+0.40	1.12	−0.11	2.16	−0.10	2.64	−0.93	1.33	−0.70	0.65	−0.66	0.99	+0.08	1.65	+0.88	0.46	−0.14	0.25	−0.41	13.42	−1.65
Willow City	0.50	−0.06	1.00	+0.55	1.80	+1.09	1.17	+0.23	2.45	+0.54	1.01	−2.29	0.56	−1.59	1.03	−1.03	0.95	−0.70	1.22	+0.51	1.00	+0.56	1.10	+0.59	13.80	−1.60
Zap	T.	−0.38	0.46	+0.19	0.48	−0.20	1.57	+0.49	2.66	+0.19	0.83	−3.17	0.78	−1.39	1.11	−1.02	0.57	−0.69	0.80	−0.28	.....	.....	0.60	+0.27	.....	.....
Moorhead, Minn.	0.21	−0.50	0.58	−0.15	0.74	−0.40	2.06	−0.27	4.01	+1.06	2.50	−1.63	5.56	+1.82	2.83	−0.27	1.34	−0.96	1.22	−0.85	1.92	+0.94	0.78	+0.04	23.75	−1.17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1919, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	15.4	+10.9	9.4	+2.4	21.6	−2.0	41.9	−0.4	56.0	+1.9	67.4	+3.9	[a]71.2	+2.5	68.1	+1.8	60.6	+3.3	[a]37.0	−7.3	14.6	−12.7	6.5	−6.2	39.1	−0.2
Arnegard									56.0		68.4		72.6		68.8		59.6		32.4		14.9		[a] 9.5			
Ashley	21.8	+14.3	11.2	+3.1	20.0	−2.0	[c]43.5	+1.0	[a]54.4	+1.7	65.6	+3.6	70.6	+2.2	67.4	+1.5	[a]59.8	+2.5	35.6	−8.1	[d]20.3	−7.4	[e]14.0	+0.5	40.4	+1.2
Beach	25.9	+16.6	13.4	−0.2	19.8	−6.7							70.6	+3.3	69.2	+4.2	56.6	+0.3	[a]28.6	−15.4						
Berthold Agency	[b]24.6	+17.1	9.4	0.0	18.8	−5.9	44.9	+1.2	[a]57.5	+3.8	[a]72.0	+9.4	73.6	+4.7	[a]70.2	+2.5	[b]60.4	+3.4	32.8	−11.9	17.6	−11.2	10.1	−5.6	41.0	+0.6
Bierman	27.6		14.8		23.4		43.6		56.2		69.8		74.7		70.3		55.9		33.2		21.0					
Bismarck	24.4	+17.7	10.0	+1.7	19.1	−3.0	43.4	+0.8	56.0	+0.8	69.0	+4.8	73.3	+3.1	70.6	+2.5	61.0	+3.9	34.6	−9.5	18.2	−7.8	11.5	−3.5	40.9	+0.9
Bottineau	13.8	+14.5	4.0	+2.2	12.8	−4.9	41.5	+2.1	56.7	+5.4	67.6	+6.6	69.7	+3.9	66.4	+2.8	55.2	−0.3	30.8	−10.8	11.0	−12.6	2.4	−4.3	35.9	+0.3
Bowbells	19.0		1.8		11.2		38.6		[b]54.5		[d]64.9		68.4		66.0		54.8		[a]26.6		10.0		4.6		35.0	
Bowman	27.0		16.0		24.5		42.8		53.4		68.0		72.3		68.4		59.2		33.2		19.0		15.4		41.6	
Cando															[b]67.9	+4.0	57.8	+2.2	[b]33.5	−10.2						
Carson	25.2		10.8		20.2		42.8		54.8		67.7		72.7		68.6		58.8		32.0		15.5		9.6		39.9	
Colgate	11.9		5.6		18.4		42.0		55.2		65.6		68.6		66.6		59.6		33.2		[d]15.6		6.7		37.4	
Crosby	19.5	+17.8	4.8	−2.3	14.3	−7.7	42.1	+1.5	55.4	+5.0	68.4	+7.8	68.8	+2.9	66.4	+2.7	56.1	+2.4	31.2	−10.3	13.5	−14.3	7.5	−4.8	37.3	0.0
Devils Lake	14.4	+14.1	3.6	−0.9	14.4	−4.1	40.5	+2.3	55.7	+3.0	66.1	+3.5	70.0	+1.9	67.0	+1.9	57.1	+1.5	31.8	−8.7	12.8	−9.8	5.0	−3.0	36.5	+0.1
Dickinson	27.8	+17.5	12.3	+0.5	20.6	−3.8	43.4	+0.5	54.6	+2.4	69.9	+8.6	73.8	+5.8	69.8	+3.5	60.1	+3.6	32.4	−11.5	19.8	−8.8	12.2	−5.1	41.4	+1.1
Donnybrook	22.3	+18.9	7.0	0.0	[c]17.3	−5.1	43.4	+3.0	57.6	+7.5	[b]69.3	+8.8	[b]71.4	+5.6	[d]69.0	+5.7	58.3	+4.3	33.5	−8.6	[a]13.2	−15.6	9.4	−2.8	39.3	+1.8
Dunn Center							[d]43.1		55.2		69.0		71.9		68.4		59.4		33.4		17.6		10.1			
Dunseith	15.6	+14.1	5.0	+1.6	[b] 9.9	−8.9	[a]40.4	0.0	[a]56.0	+4.1	66.2	+5.0	69.1	+4.7	66.0	+2.4	54.8	0.0	30.9	−10.2	12.9	−13.3	3.8	−4.5	35.9	−0.4
Eckman	15.8	+15.2	2.5	−3.9	[b]12.3	−9.8	40.8	−0.8	[a]54.4	+3.8	[a]66.7	+5.4	[a]70.7	+4.9	[a]67.4	+4.1	[a]56.6	+1.1	30.9	−11.8	10.8	−15.5	3.8	−5.8	36.1	−1.1
Edgeley	20.8	+13.0	11.3	+0.4	21.6	−4.9	43.6	+0.4	54.4	+0.9	66.4	+3.6	70.3	+1.8	68.3	+1.9	61.4	+3.9	36.6	−9.3	19.1	−11.3	10.8	−5.7	40.4	−0.4
Ellendale	20.8		10.9		21.2		42.8		54.6		66.6		69.7		67.4		60.5		36.0		18.5		10.4		40.0	
Fessenden	16.3		5.4		15.5		40.4		54.4		65.4		69.6		66.8		57.4		32.6		14.8		6.0		37.0	
Forman	22.4	+15.3	14.4	+4.5	24.6	−0.9	[a]45.8	+1.4	[b]55.6	+0.1					66.4	−1.3	63.6	+4.2	39.4	−6.4						
Fullerton	19.6	+11.8	13.4	+4.1	21.7	−3.5	44.0	+1.2	56.6	+3.3	66.9	+4.2	72.7	+4.3	68.4	+2.1	62.8	+6.1	35.8	−8.5	19.4	−10.3	10.4	−3.3	41.0	+1.0
Garrison	22.4	+15.9	7.2	−1.2	15.8	−5.9	42.8	+0.2	54.4	+1.8	[a]66.4	+4.2	[a]70.8	+2.7	68.1	+2.4	58.1	+1.3	[a]32.8	−11.0	16.6	−10.4	8.5	−5.1	38.7	−0.4
Gratton	12.4	+11.5	6.3	+1.4	17.3	−1.9	42.0	+1.7	55.8	+2.9	66.2	+3.7	69.0	+1.5	66.4	+1.9	58.9	+3.0	33.6	−9.1	14.2	−9.8	3.6	−4.1	37.1	+0.2
Grand Forks	12.1	+ 8.5	5.6	−0.9	19.0	−3.4	42.6	+0.6	56.1	+2.7	67.1	+4.2	69.6	+2.2	66.0	+1.1	58.5	+2.3	32.8	−10.7	12.1	−14.0	2.9	−7.7	37.0	−1.3
Grand Rapids	19.4		[b]11.0		21.4		44.5		56.9		[d]68.5		71.4		68.4											
Granville	17.8	+16.1	4.2	−4.2	15.4	−8.3	43.0	+0.5	55.8	+4.4	67.6	+4.5	70.6	+3.5	67.8	+3.9	57.5	+3.1	32.4	−11.7	15.7	−10.4	8.0	−4.4	38.0	−0.2
Hannah	10.4	+12.1	1.2	−0.8			38.2	−0.2	[a]54.6	+4.2	64.0	+4.5	68.4	+3.8	65.0	+2.5	54.4	+0.5	31.4	−9.1	12.2	−8.2	2.2	−4.7		
Hansboro	[c]12.4	+14.7	1.0	−2.7	11.8	−9.5	39.9	0.0	[b]54.2	+3.9	[c]65.5	+6.1	68.8	+3.4	[b]65.2	+2.4	54.4	+0.3	30.2	−11.1	[a]12.0	−13.9	3.4	−3.9	35.0	−0.8
Hettinger	26.4	+13.9	14.8	+1.6	23.6	−4.0	42.7	−2.1	54.6	+1.8	68.6	+6.5	74.0	+4.5	70.4	+3.4	57.6	−0.4	36.3	−10.1	20.2	−13.2	14.1	−1.7	41.9	0.0
Hillsboro	13.9	+10.0	7.9	−0.6	20.6	−4.1	41.6	−2.0	55.6	+2.4	67.1	+2.7	70.7	+1.2	[a]67.4	+0.5	60.8	+1.8	35.2	−10.8	15.2	−13.6	5.0	−7.6	38.4	−1.7
Howard	19.8	+18.3	5.0	−1.0	11.3	−9.5					[a]67.4	+7.7	[b]71.0	+5.5	67.0	+3.5	56.8	+3.0	30.6	−10.8	12.6	−15.1	6.8	−5.0		
Jamestown	20.4	+13.9	10.8	+2.9	20.8	−1.8	43.2	+0.7	56.0	+2.5	67.4	+4.3	71.6	+3.1	68.9	+2.7	62.0	+5.3	36.2	−8.6	17.9	−9.7	9.0	−4.6	40.4	+0.9
Lakota	12.0	+13.4 [a]	3.8	−0.6	[b]14.8	−4.7	42.2	+2.9	55.3	+5.2	64.2	+3.5	68.4	+2.8	[d]64.4	+1.2	[b]54.1	−1.0								
Lamoine	16.4	+12.4 [b]	4.8	−2.9	15.7	−7.3	[a]41.8	−0.9	[b]54.6	+3.9	[a]66.4	+5.9	71.0	+5.2	[a]67.3	+3.4	[b]58.6	+2.0	32.6	−10.5	[a]15.7	−11.3	[a] 4.1	−7.1	37.4	−0.6
Langdon	9.1	+11.8	0.8	−2.2	11.6	−7.4	39.0	+0.9	54.8	+4.0	64.7	+5.0	67.3	+2.8	63.6	+1.9	54.8	+1.3	30.2	−10.2	11.0	−14.7	0.6	−6.7	34.0	−1.1
Larimore	13.4	+10.8	6.0	+0.8	18.6	−2.4	41.7	+1.3	56.4	+4.0	66.0	+3.9	69.8	+3.1	67.0	+2.7	57.7	+2.5	34.4	−8.9	14.6	−11.2	5.4	−5.4	37.6	+0.1
Linton							41.6		54.2		[a]67.6		72.0		68.6		61.3		34.7		15.4		10.2			
Lisbon	18.4	+12.5	13.0	+3.1	22.8	−3.8	44.0	+1.3	56.6	+3.7	67.7	+4.6	[a]73.4	+5.2	67.4	+0.9	61.2	+3.5			20.6	−9.6				
McHenry	12.5		5.9		15.3		41.0		55.6		66.2		74.6		71.1		59.6		34.9		16.1		2.1		37.6	
McKinney	20.6	+17.4	3.6	−1.5	14.6	−4.6	41.9	+0.9	54.8	+2.8	65.7	+5.0	68.2	+2.2	66.6	+3.1	56.8	+2.7	30.2	−11.5	12.0	−12.6	7.6	−3.1	36.9	+0.1
McLeod	18.0		12.7		24.1		44.6		56.6		67.9		71.4		66.5				36.0		19.2		8.9			
Maddock	14.6		4.9		14.3		40.6		55.2		66.0		71.4		66.2		55.6		33.6		15.2		6.0		36.9	
Mandan	22.0		8.6		18.6		43.0		55.8		69.0		74.2		71.0		60.7		33.2		18.0		10.5		40.4	
Manfred	16.4	+12.4	5.0	−1.8	[a]16.0	−7.1	42.2	+0.4	56.2	+4.6	67.2	+5.7	70.6	+3.7	67.9	+3.6	58.0	+2.1	32.8	−10.5	14.5	−14.5	[a] 5.1	−6.2	37.7	−0.6
Marmarth	25.2	+14.9	14.6	+1.5			43.4	+0.6	55.4	+5.4	69.5	+9.2	73.6	+5.8	69.8	+4.2	59.4	+3.8	33.2	−10.9	20.0	−14.0	[a]14.4	−3.3		
Mayville	15.8	+ 9.7	8.5	+0.8	22.0	−1.2	43.1	−0.1	56.1	+1.6	67.4	+2.9	72.2	+2.8	68.0	+1.7	61.9	+4.5	36.4	−8.5	16.6	−12.7	6.0	−7.1	39.5	−0.5
Melville	[b]17.5	+11.9 [1]	7.3	+0.7	[c]18.2	−4.1	[a]41.4	+1.3	[d]54.0	+1.5	[a]65.8	+2.9	[d]71.8	+3.9	68.4	+2.0	[c]59.6	+3.2	[d]34.2	−9.4	[a]16.9	−12.1	[c] 7.6	−4.2	38.6	−0.2
Minot	19.0	+14.0	4.7	−3.2	14.6	−6.8	40.7	−1.0	55.0	+2.7	66.5	+4.0	69.3	+1.2	66.0	+0.9	56.3	−0.4	30.4	−13.2	12.6	−17.1	[a] 5.6	−6.8	36.7	−2.2
Minto	13.1	+11.3	7.6	+1.7	19.6	−1.5	44.0	+3.4	57.4	+4.0	67.6[3]	+3.7	[a]70.6	+3.5	67.4	+2.8	60.4	+4.0	[a]37.2	−6.0	13.7	−10.8				
Mott	25.0	+17.5	12.6	+0.8	20.0	−6.6	42.6	0.0	54.8	+3.2	72.4	+9.4	74.7	+5.6	69.0	+3.1	58.2	+1.9	33.2	−9.8	16.3	−14.9	12.1	−2.0	40.9	+0.7
Napoleon	20.6	+14.7	8.3	+1.5	17.3	−4.0	41.9	+0.4	54.0	+1.6	66.5	+4.3	73.5	+5.2	68.9	+2.9	60.8	+3.9	34.5	−7.4	16.8	−9.8	8.1	−4.3	39.3	+0.8
New England	25.4	+12.1					[a]39.9	−3.2	53.8	+2.2	[a]68.3	+6.3	[b]73.0	+4.5	68.0	+1.3	[a]57.8	+2.0	32.6	−11.1	19.4	−10.8	14.0	−3.4		
New Salem	24.0	+16.3	8.8	−1.8	17.6	−6.9	41.4	−1.1	54.4	+3.1	67.1	+4.3	72.3	+3.0	69.4	+3.0	59.8	+2.6	35.6	−8.7	17.2	−13.5	11.8	−3.1	40.0	−0.2
Orange	27.1	+17.9	12.4	+0.5	23.2	−5.3	43.4	+1.0	[a]53.6	+2.4	68.6	+6.3	72.0	+3.4	68.6	+2.0					20.3	−13.1				
Park River	[b]14.8	+13.0	6.2	+0.5	[b]16.7	−5.4	[a]41.0	−0.5	[c]58.0	+5.8			70.4	+2.6	67.4	+1.9	[b]59.4	+2.5	35.0	−9.3	15.4	−12.6	[c] 3.0	−8.1		
Pembina	9.4	+12.3	1.6	+0.2	13.0	−3.0	43.5	+5.6	[a]59.8	+7.3	[c]67.8	+5.2	[a]72.6	+4.9	69.4	+5.3	57.3	+3.5	33.4	−7.5	11.2	−11.5	[c] 4.9	−10.9	36.2	+1.0
Pettibone							[d]40.2		54.2		65.9		[a]70.8		67.8		58.9		32.7		15.6		5.3			
Sherwood							[b]41.4		53.9		64.7															
Steele	22.8	+15.2	11.5	+4.4	19.0	−3.1			57.3	+3.5	67.8	+5.4	[a]73.6	+4.2	69.4	+2.6	59.9	+2.1	37.5	−6.5	17.2	−11.2	7.0	−6.6		
Taylor	[a]23.6	[d]	7.6		[a]19.6		[c]41.4		53.2		[b]64.0		71.6		67.4		[a]60.6		33.4		11.8		[a]12.2		38.9	
Towner	15.8	+13.2	2.8	−2.4	13.2	−6.0	43.0	+1.6	58.1	+5.8	68.6	+6.4	72.6	+5.5	68.3	+3.9	57.8	+2.0	32.4	−10.0	12.2	−12.8	4.4	−5.6	37.4	+0.1
Turtle Lake							43.3		54.9		63.4		72.8		[a]70.8		59.8		33.0		15.4		8.2			
Valley City			8.0	−1.6	[a]19.3	−6.8			[c]54.8	+2.2					67.8	+2.2	59.6	+1.4	35.4	−7.0	16.2	−13.5	6.4	−7.3		
Wahpeton	18.2	+10.4	12.0	+2.1	26.6	+0.4	45.8	+1.5	57.1	+1.8	67.0	+2.2	70.6	+1.3	67.4	+0.5	[b]61.6	+3.0	36.7	−9.2	18.9	−9.4	8.3	−6.4	40.8	−0.2
Walhalla	14.0	+14.3	6.6	+2.8	15.6	−4.3	42.2	+2.3	57.1	+7.0	67.2	+5.3	70.6	+3.9	68.2	+3.8	57.9	+2.0	33.9	−9.1	14.8	−12.3	3.6	−5.9	37.6	+0.8
Washburn							[a]37.0	+3.2	67.4	+3.3	72.0	+2.5	69.4	+2.0	58.7	+0.2	34.8	−9.7	19.2	−11.1	11.0	−3.0				
Westhope	15.8	+17.2	3.7	+0.4	12.6	−8.3	42.1	+2.4	56.9	+5.5	67.3	+5.7	69.8	+3.7	67.4	+3.3	57.8	+3.0	34.8	−6.6	10.8	−16.0	2.6	−6.4	36.8	+0.3
Williston	24.1	+17.9	7.2	−0.7	16.4	−5.2	43.6	+3.1	56.4	+2.1	69.4	+5.9	71.0	+1.6	69.0	+1.1	58.0	−1.5	32.1	−10.8	15.0	−10.2	9.7	−3.9	39.4	0.0
Willow City	12.0	+11.7	2.1	−0.6	11.6	−6.7	40.7	+0.5	54.8	+3.3	65.7	+4.7	68.6	+3.2	65.7	+2.2	55.5	+1.2	30.3	−11.4	11.6	−10.5	2.4	−6.1	35.1	− 0.7
Zap	23.1	+16.0	7.6	−2.7	17.6	−7.5	43.1	0.0	54.4	+2.5	67.6	+6.4	71.8	+3.8	69.2	+2.9	60.1	+4.0	32.6	−12.6						
Moorhead, Minn.	15.7	+13.0	9.7	+2.7	23.1	+1.7	44.2	+2.8	57.0	+2.2	69.0	+4.7	71.9	+3.2	68.2	+2.3	60.4	+3.8	36.5	− 6.3	17.4	−7.0	7.4	−3.3	40.0	+1.6

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

Monthly Maximum Temperatures for the Year 1919, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Amenia	42	30	38	16	48	24†	78	21	92	28	93[a]	17	99[b]	26	95	19	94	7	81[b]	8	42	20	44	21
Arnegard	.....	.....	.....	.....	.....	.....	.....	.....	96	28	104	29	105	17	94	31	90	12	80	7	44	18	48[a]	19
Ashley	47	20	43	10†	48	28	75[c]	18	86[a]	28	91	30	98	26	92	5	93[a]	6	78	8	46[d]	22	48[e]	22
Beach	66	25	54	9	46	11†	.....	.....	.....	.....	105	29	109	17	97	5	94	11	73[a]	6	.....	.....	.....	.....
Berthold Agency	60[b]	19	52	10	55	31	79	20	100[a]	28	108[a]	28	105	17	99[a]	3	92[a]	12	80	8	48	16†	49	29
Bierman	57	23	51	9	62	28	71	20†	95	28	105	29	103	17	94	31	86	16	71	6†	48	17†	.....	.....
Bismarck	52	19	52	10	50	31	76	18	91	27	98	24	100	17	95	19	93	6	83	8	49	22	46	22
Bottineau	42	19	38	10†	39	19	73	20	98	28	99	29	103	17	98	19	85	6	80	8	40	16	39	24
Bowbells	42	15†	42	10	40	18†	77	20	97	28	95[b]	29	101	17	94	18†	85	6†	60[g]	4†	40	19	40	21†
Bowman	60	23	53	10	63	28	74	22	94	28	106	29	103	17	96	11	91	12	79	8	46	18	46	22†
Cando	.....	.....	.....	.....	.....	.....	.....	.....	93	28	92	17†	97	26	98	19	84	6	69[b]	9	38	18	.....	.....
Carson	60	24	50	10	52	31	75	18†	93	24	101	29	103	22	94	2	95	6	70	1†	40	21†	40	21
Colgate	40	17	33	20	44	31	76	21	94	28	92	19	95	16	95	21	90	5	80	2	42[d]	16†	40	25
Crosby	39	17	41	10	41	31	73	20	91	28	96	24	97	17	91	4	80	12	73	7	40	16†	39	25
Devils Lake	44	19	39	10	40	31	72	18	94	28	90	17	95	25	96	19	86	6	80	8	39	21	40	25
Dickinson	59	23	52	10	55	31	78	20	97	28	108	29	105	17	95	19	92	1	79	8	46[a]	19	43	21†
Donnybrook	49	21	41	11	44[c]	31	76	20	101	28	104[b]	29	105[b]	17	97[c]	19	88	11†	78	8	45[a]	17	44	24
Dunn Center	57[f]	23	52	10	.....	.....	76	20	97	28	108	29	103	17	96	19	90	12	76	7†	48	17†	42	21†
Dunseith	44	9†	40[a]	10	47	18†	76[b]	29	96[b]	28†	94	17†	101	17	94	19	83	6	79	8	48	16	45	24
Eckman	48	24	48	10	38[b]	31	74	20	98[a]	28	98[a]	29	103[a]	17	99[a]	19	86[a]	12	80[a]	8	39	17	38	21
Edgeley	46	29	47	10	49	28	75	21	87	28†	89	30	99	26	92	5†	96	5	79	8	47	22	44	22
Ellendale	48	29	44	10	52	28	74	21	86	29	90	25	97	26	92	5	94	5	78	8	50	22	46	25
Fessenden	42	20†	43	10	41	31	74	18	94	28	92	17†	99	17	97	19	90	5	82	8	45	22	46	25
Forman	44	29	36	21	52	24	76[b]	22	90[b]	28	94	30	100	25†	98	5†	100	6	81	6	.....	.....	.....	.....
Fullerton	46	29	43	10	51	28	74	26	88	29	90	25†	95	26	90	5†	94	6	77	8	48	22	45	25
Garrison	52	19†	51	11	46	18	72	19†	93	28	100[a]	29	101[a]	17	99	19	89	12	81[a]	8	47	17	41	24†
Grafton	40	17	33	11	42	31	72	21	97	28	89	30	93	16	100	19	88	6	82	8	42	17	42	25
Grand Forks	38	17	33	11	43	31	72	21	92	28	90	30	91	2	95	19	91	7	80	8	40	17	42	25
Grand Rapids	48	26	38[c]	21	52	28	78	21†	93	28	93[f]	25	97	26	93	5†	.....	.....	.....	.....	.....	.....	.....	.....
Granville	43	19†	44	10	42	31	75	20	95	28	98	29	102	17	97[a]	19	89	12	80	8	42	22	43	22
Hannah	34	17†	34	10	35[m]	18	70	19	97[n]	28	90	29	97	17†	98	19	85	6	78	8	37	17	35	25
Hansboro	42[c]	8	37	10	37	24	77	29	97[b]	28	88[c]	24†	101	25	100[b]	19	84	1†	80	8	43[a]	17	42	25
Hettinger	62	23	50	11	60	28	75	18†	93	28	104	29	102	17†	98	11	93	12	79	7	47	23†	47	22†
Hillsboro	37	17†	32	11	44	24	72	21	90	28	90	25†	93	1	93[a]	19	92	7	78	8	40	17	39	25
Howard	57	24	40	10	42[a]	31	.....	.....	95	28	101[a]	15	96[b]	22	94	31	88	6	77	7	42	22	38	22†
Jamestown	42	26	42	11	47	31	75	18	91	28	90	17†	96	17	94	5	92	6	74	2	45	22	41	25
Lakota	35	17†	34[a]	11	40[a]	30	72	18	92	28	88	17	94	25	96[d]	19	87[b]	4	.....	.....	.....	.....	.....	.....
Lamoine	41	19	43[b]	10	46	31	73[a]	18†	92[b]	28	95[a]	27	99	17	93[a]	22	90[b]	5	82	8	42[a]	16	38[a]	25
Langdon	36	17†	33	10	38	22†	68	18†	95	28	90	15	98	25	96	19	84	6	80	8	40	16†	36	25
Larimore	40	17†	33	11	43	31	72	21	95	28	90	30	91	16†	97	19	90	7	83	5	41	17†	40	21†
Linton	.....	.....	.....	.....	.....	.....	75	22	92	29	104[a]	28	100	1†	98	5	99	6	71	1	41	17	45	29
Lisbon	44	13†	32	23	48	29	75	21†	89	28†	94	30	97	17	96	18	96	7	.....	.....	43	21	.....	.....
McHenry	39	19	39	10	40	31	73	18	93	28	86	17	91	17†	94	19	91	5	78	8	41	17	30	18
McKinney	45	23†	43	10	44	18	75	20	98	28	95	29	101	17	95	18	86	1†	72	5	42	16	45	25
McLeod	54	19	43	11	52	19†	76	22	90	28†	92	17	98	17†	91	19†	93	5	76	8	42	22	38	25
Maddock	43	16	39	10	38	18†	71	18†	93	28	92	17†	100	17	97	19†	83	5†	79	8†	40	22	43	25
Mandan	50	20†	51	10	51	31	75	18†	93	27†	102	29	103	17	100	3	94	6	82	8	48	22	45	22
Manfred	40	23	38	10†	40[a]	18	74	29	93	28	94	30	98	17	96	19	87	12	79	8	41	22	38[a]	24
Marmarth	56	23	57	9	67	28	73	20	95	28	108	29	104	17	96	31	91	11	77	8	47	18	45[a]	30
Mayville	40	17	35	11	44	31	73	21†	94	29	94	30	97	18	97	19	94	6	81	9	41	17	38	25
Melville	45[k]	23†	41[d]	10†	42[c]	31	73[a]	19	90[d]	28	92[c]	24	94[d]	17†	94	22	89[c]	5	78[c]	8	38[a]	18	40[c]	21
Minot	48	20	47	11	48	19	76	20	99	28	99	29	103	17	98	18	88	12	80	8	45	16	44[a]	21
Minto	39	24†	32	11	44	31	73[a]	21	96	28	90[c]	15†	94[a]	16	100	19	91	7	82	8	43	17	.....	.....
Mott	62	21	58	10	54	31	73	20	93	26	105	29	101	22	98	5	92	12	80	8	43	17†	45	21
Napoleon	45	19	48	10	46	31	76	18	89	27†	96	31	100	22†	96	5	96	6	80	8	48	22	40	22†
New England	56[a]	23	.....	.....	.....	.....	70[l]	19†	93	27†	103[a]	28†	101[b]	18	92	2†	89	12	76[a]	8	46[a]	22	47	20†
New Salem	53	19	44	11	51	31	73	19	91	27†	101	29	101	22	96	5	92	6	81	8	46	22	45	25
Orange	61	23	52	10	56	31	75	22†	91[a]	27	103	29	102	22	98	5†	.....	.....	.....	.....	57	24	.....	.....
Park River	40[b]	17†	35	21	42[b]	31	70[a]	19	96[c]	28	.....	.....	93	16†	98	19	89[b]	13	82	8	42	17	40[c]	22
Pembina	34	19†	30	20	42	29†	70	26	99[a]	28	98	24	100	16	99	19	84	13	84	7	48	16	32	19†
Pettibone	.....	.....	.....	.....	.....	.....	75[d]	18	90	27†	94	30	99[a]	17	96	19	90	5	80	8	44	22	40	25
Sherwood	.....	.....	.....	.....	.....	.....	74[n]	19	95	28	94	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	54	19†	52	11	45	31	.....	.....	90	28	92	24†	99	17	97	19	94	5	81	8	47	22	42	24†
Taylor	42[a]	24	42[d]	11	51[a]	31	68[c]	22†	88	28†	102[b]	29	97	25	89	13†	89[a]	6	78	8	44	22	46[a]	22
Towner	44	23	40	10†	41	18	73	18	97	28	97	29	103	17	100	19†	85	6†	80	8	38	17	37	29
Turtle Lake	.....	.....	.....	.....	.....	.....	75	29	93	28	98	29	102	17	101[a]	19	91	5	83	8	44	22	41	25
Valley City	.....	.....	33	11	41[a]	20	.....	.....	95[c]	30	.....	.....	.....	.....	90	13†	90[a]	5	78	8	40	17†	37	25
Wahpeton	43	21	37	21†	57	19	72	22†	90	28†	90	25	101	26	91	19	90[b]	6	77	8	43	20†	39	22†
Walhalla	45	19	38	11	43	18	71	18†	99	28	91	30	97	16	101	19	87	1	83	8	46	16	43	25
Washburn	.....	.....	.....	.....	.....	.....	.....	.....	92[a]	27	93	24	98	25	97	19	90	5†	86	8	50	23	43	24
Westhope	40	19	40	10	42	18	72	18	100	28	96	29	103	17	99	19	87	5	73	2†	42	1†	40	25
Williston	51	23	49	10	52	31	75	20	96	28	99	29	101	17	94	31	88	11	76	7	48	16	42	25
Willow City	43	23	39	11	44	18	72	20	96	27	97	29	103	17	99	19	85	6	78	8	39	16	40	21
Zap	58	19†	52	10	53	31	75	20	93	28	106	29	103	17	100	19	89	5†	84	8	.....	.....	43[p]	24
Moorhead, Minn	41	17	35	11	54	24	75	22	91	28	90	25	99	26	93	14	91	7	79	8	44	17	41	25

† Occurred on other dates also.

[a] indicates 1 day missing, [b] 2 days, etc.

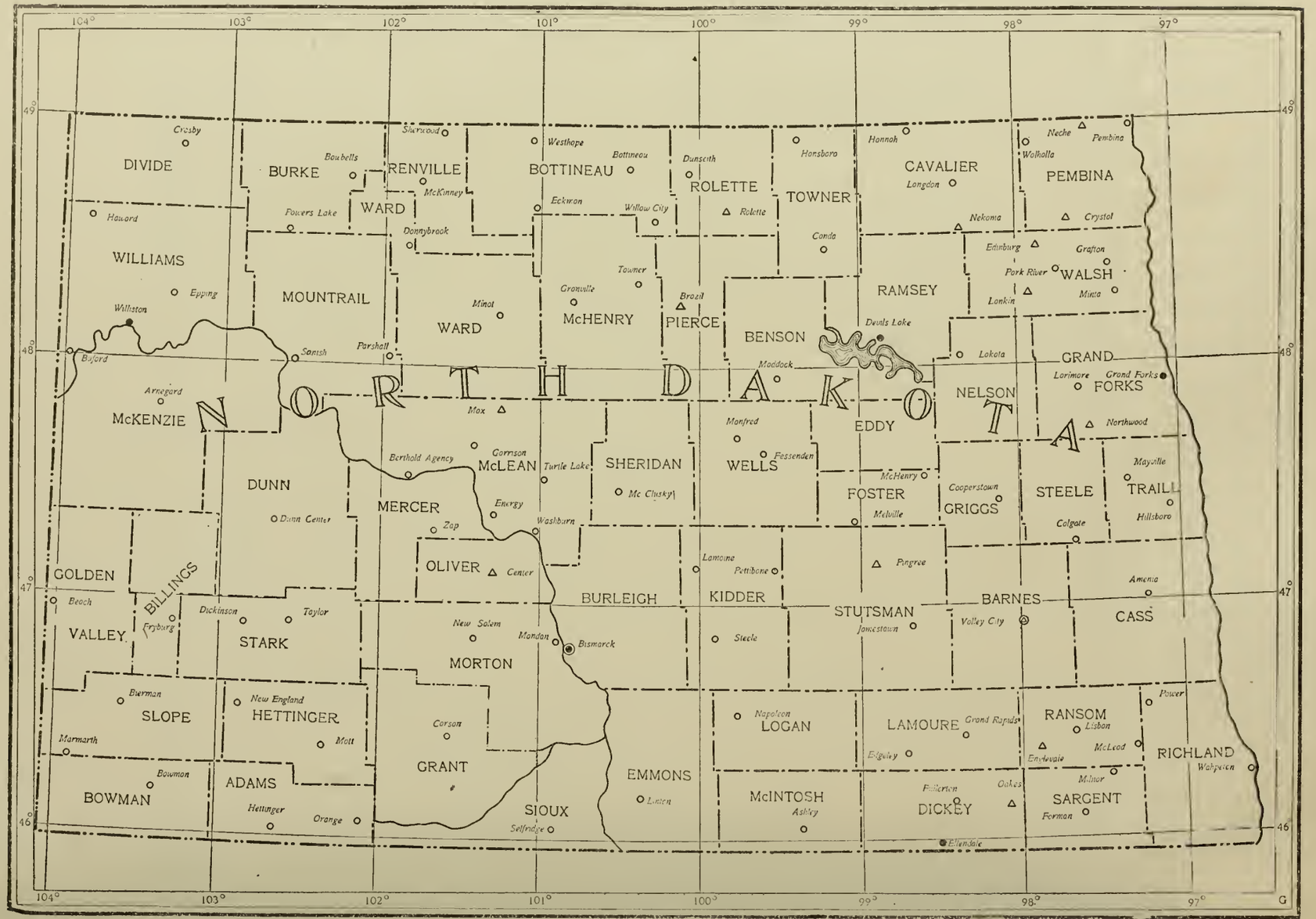
Monthly Minimum Temperatures for the Year 1919, with Dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Amenia	−36	3	−30	25	−24	2	16	24	29	5	36	3	48	8†	43	25†	28	25	− 7	28	−16	30	−26	9†
Arnegard									25	5	29	2	45	10	43	30	32	27	− 7	26	−22	30	−30[a]	9
Ashley	−34	3	−25	25†	−19	1	18°	24	30[a]	1	32	3	45	19	42	25	29[a]	25	−12	26	−15[d]	30	−23[e]	10
Beach	−35	3	−35	28	−23	1							46	4†	35	30	30	28	−15[a]	26				
Berthold Agency	−39[b]	3	−36	23	−31	5	19	24	26[a]	7	29[a]	2	43	9	38[a]	30	30[a]	25	−10	26	−20	30	−30	15
Bierman	−28	2	−25	28	−18	1	15	10	29	4†	28	2	47	19	45	30	30	28	0°	24	−12	27		
Bismarck	−35	1	−24	25	−25	5	19	24	30	7	35	2	47	19	45	25	34	25	−10	26	−14	30	−26	10
Bottineau	−36	3	−31	26	−27	5	13	24	24	5	32	2	42	10†	40	24	23	25	− 3	26	−22	30	−38	9
Bowbells	−39	2	−34	26	−28	1	6	24	24°	4	27[a]	2	40	28	36	31	26	25	− 9[g]	26	−27	30	−34	11
Bowman	−34	3	−36	28	−16	5	11	10	24	7	25	2	43	21	35	30	32	28	−10	26	− 9	12	−25	9
Cando															38[c]	24†	26	29	− 8[h]	28				
Carson	−36	3	−33	28	−20	2	16	23	27	7	28	2	50	8†	40	30	30	28	− 9	26	−14	30	−28	9
Colgate	−38	3	−27	25	−22	4	18	24	26	5	32	3	43	11	40	25†	29	24	− 7	27	−15[d]	27	−25	8
Crosby	−32	3	−29	26	−22	5	19	10	27	4	34	1†	51	3†	40	24†	31	26	− 4	27	−20	30	−28	8†
Devils Lake	−34	3	−32	26	−21	2	18	24	25	5	36	2	48	10	42	25	30	25	− 1	25	−20	30	−27	8
Dickinson	−31	2†	−37	28	−25	1	13	10	28	7	28	2	42	19	36	30	32	28	−11	26	−10	12	−26	9
Donnybrook	−32	3	−28	26	−20°	1	18	24	26	5	33[b]	2	44[b]	10	38[d]	24	26	25	−10	26	−27[a]	30	−37	8
Dunn Center							18[b]	9	26	7	28	2	42	19	37	30	33	28	− 5	24†	−20	30	−29	10
Dunseith	−35	3	−34	26	−26[d]	2	10	24	22	5	28	2	41	8†	40	24†	26	25†	− 6	26	−24	30	−37	9
Eckman	−41	3	−33	26	−29[b]	5	17	24	22[a]	5	26[a]	2	42[a]	10	36[a]	24	22[a]	25	−11	26	−26	30	−35	10
Edgeley	−31	3	−25	27	−20	5	17	24	28	1	32	3	44	19	40	25†	25	25	− 6	26	−14	30	−24	10
Ellendale	−33	3	−30	25	−22	5	19	24	31	5	37	3	49	12	42	25	30	25	− 4	28	−12	13	−21	10
Fessenden	−41	3	−33	25	−25	5	17	24	23	5	30	2†	44	10†	37	25	21	25	−10	26	−23	30	−30	10
Forman			−28	25	−22	2†	19[b]	24	30[b]	5					38	25†	30	25	− 3	28				
Fullerton	−34	3	−26	25	−19	5	19	24	30	1	37	2†	49	12	41	31	29	25	− 4	28	−13	30	−20	8†
Garrison	−33	3	−30	28	−30	5	18	24	25	7	28[a]	2	44[a]	9	37	30	27	25	−15[a]	26	−20	30	−28	10
Grafton	−36	3	−29	27	−25	5	17	24	23	5	30	3	41	10	33	28	26	25	− 9	26	−27[a]	26	−31	10
Grand Forks	−36	1†	−27	26	−20	2	19	24	26	5	39	3	47	10	38	27	29	25	− 9	26	−24	26	−28	8
Grand Rapids	−40[a]	3†	−25[i]	25†	−22	5	18	24	31	1†	33[a]	3	46	11	40	26								
Granville	−40	1	−30	26	−24	5	18	24	23	5	33	3	44	10	42	24†	26	25†	− 9	26	−21	30	−28	10
Hannah	−38	3	−40	26	−27[m]	2	12	24	16[a]	5	28	3	45	19†	30	27	25	25	− 7	26	−26	30	−34	10
Hansboro	−37°	3	−37	25	−28	5	10	24	18[b]	5	31°	5	42	3	34[b]	25†	23	25	− 9	26	−26[a]	30	−34	8†
Hettinger	−32	3	−35	28	−19	1	11	10	26	7	27	2	44	9†	38	30	30	27	−10	26	− 8	12	−29	9
Hillsboro	−36	3	−24	26	−21	2	18	24	28	5	36	3	46	10	42[a]	28†	30	25	− 7	26	−18	26	−26	10†
Howard	−36	2	−32	28	−28	4			22	5†	22[a]	2	43[p]	22	37	30	29	27	− 9	26	−36	27	−33	10
Jamestown	−32	3	−23	26	−23	5	20	24	30	5	37	3	46	19	40	31	29	25	− 8	28	−16	30	−26	10
Lakota	−38	3	−32[a]	26	−24[a]	5	17	24	25	1	34	3	40	10	36[d]	24†	22[a]	25						
Lamoine	−39	3	−29[b]	26	−27	2	16[a]	24	26[b]	1†	29[a]	2	43	9	40[e]	28	22[b]	25	−11	26	−21[a]	30	−32[a]	10
Langdon	−42	3	−40	26	−30	2	14	1†	21	5†	33	2	40	10	34	27	24	25	− 7	28	−25	30	−35	9†
Larimore	−36	3	−27	26	−22	2	17	24	24	5	34	3	45	8	42	25†	29	25	− 6	28	−20	26	−28	8
Linton							20	17	28	1	30[a]	2	40	10†	38	29	34	25	−10	26†	−15	30	−30	9
Lisbon	−35	3	−27	25	−24	2	12	24	28	5	31	3	53[b]	7	42	26	22	25	− 8	26	−12	12†		
McHenry	−40	3	−30	25†	−21	2†	15	24	27	5	33	3	47	8	45	28	26	25	− 2	28	−18	26	−30	28
McKinney	−32	2†	−32	25	−32	5	18	24	22	7	31	2	42	9†	40	25†	30	25†	−15	26	−24	30	−28	9
McLeod	−35	3	−27	25	−22	2†	14	24	28	5	35	3	48	12	33	28			−12	27	−10	13†	−23	10†
Maddock	−38	3	−36	26	−25	4†	17	9	25	5	29	2	41	10	34	21	24	25	− 5	26	−22	30	−28	15
Mandan	−36	1	−23	25†	−24	5	18	24	29	5†	32	3	47	21	46	25	33	25†	−14	26	−16	30	−27	10
Manfred	−37	3	−31	26	−22[a]	5	20	24	26	5	32	2	48	19	39	25	24	25	−11	26	−20	30	−28[a]	15
Marmarth	−30	3	−29	28			11	9	26	7	28	2	45	8	39	30	32	27†	− 5	26	− 9	12†	−26[a]	9
Mayville	−36	3	−25	26	−17	5	19	24	26	1	33	2	44	10	40	26†	28	25	− 9	26	−19	26	−25	15
Melville	−42[k]	3	−27[d]	26	−19°	3	20[a]	24	23[d]	15	35[d]	2	46[d]	19	42	25	26°	24	− 3[d]	28	−20[a]	30	−26°	10
Minot	−40	3	−34	26	−35	5	13	25	21	5	27	2	39	10	33	25	20	25	−16	26	−26	30	−32[a]	10
Minto	−33	1†	−25	27	−19	2†	18	24	24	5	32[d]	3	45[a]	10	34	27	26	25	−10°	26	−27	26	−30[p]	8
Mott	−27	2	−37	28	−21	5	19	10	26	6	27	2	48	8	38	30	32	28	− 9	25†	−10	12†	−27	9
Napoleon	−40	3	−31	28	−30	5	14	24	26	5	30	3	42	19	40	26†	24[a]	25	− 8	26	−20	30	−33	10
New England	−29	3					10[k]	10	28	7	25[a]	2	45[b]	9	38	30	34	28†	− 9	26	−10[a]	30	−25	8
New Salem	−32	2	−27	26†	−21	2	15	24	21	5	29	2	46	10	42	30	30	28	−10	26	−18	30	−31	9
Orange	−28	1	−40	28	−23	5	18	24	25[a]	7	24	2	39	8	34	30					− 8	11†		
Park River	−33[b]	3	−25	26†	−19[b]	2	17[a]	24	28°	1			46	10	38	28	29[b]	24	0	26	−19	30	−27°	9
Pembina	−38	3	−34	27	−30	5	18	23†	32	1†	36	3	51	10†	34	27	31	25	− 8	31	−26	26†	−32	8
Pettibone							14[d]	24	25	5	33	2	45[a]	21	42	31	23	25	−15	26	−21	30	−33	10
Sherwood							10[a]	23	20	5	28	1†												
Steele	−44	1	−28	24	−22	5			33	6	36	3	48[b]	10	44	30†	33[a]	29	−12	27	−15	30	−38	7†
Taylor	−31	3	−34[d]	28	−18[a]	1	18°	24	28	4	30[b]	2	48	19	39	30	31[a]	27	− 9	26	−28	30	−26[a]	11
Towner	−42	3	−33	26	−29	5	15	24	25	5	34	2	45	5	37	24	28	25	−10	26	−23	30	−33	16
Turtle Lake							25	23	27	5	32	2†	50	15†	45[a]	25	26	25	−12	26	−20	30	−28	10
Valley City			−27	26	−23[a]	3			28°	4†					42	24	26	25	− 4	28	−18	26	−26	10
Wahpeton	−36	3	−22	25†	−20	2	18	24	29	9	35	3	48	12	38	31	28[g]	25	− 9	25	−14	30	−21	10
Walhalla	−35	3	−27	26	−22	2	12	24†	23	5	29	3	43	10	33	28	31	24†	− 4	28	−24	26	−29	9
Washburn									22[a]	4	31	2	46	9	40	30	30	24	−10	26	−17	30	−29	10
Westhope	−37	3	−35	26	−28	5	20	23	20	5	31	2	42	27	38	23	22	25	− 7	26	−30	30	−32	8†
Williston	−30	2	−28	28	−26	5	21	10	29	4	33	2	51	21	41	30	32	27	− 2	26	−20	30	−27	10
Willow City	−40	3	−39	26	−38	2	16	24	24	5	27	2	37	10	35	24	22	25	− 8	26	−23	30	−34	9†
Zap	−38	3	−34	28	−29	5	17	24	25	7	25	2	43	10	38	30	31	28	−18	26			−23[j]	11
Moorhead, Minn.	−35	3	−25	20	−19	5	20	24	30	5	38	3	50	10	42	31	32	25	− 4	26	−14	30	−22	10

† Occurred on other dates also.

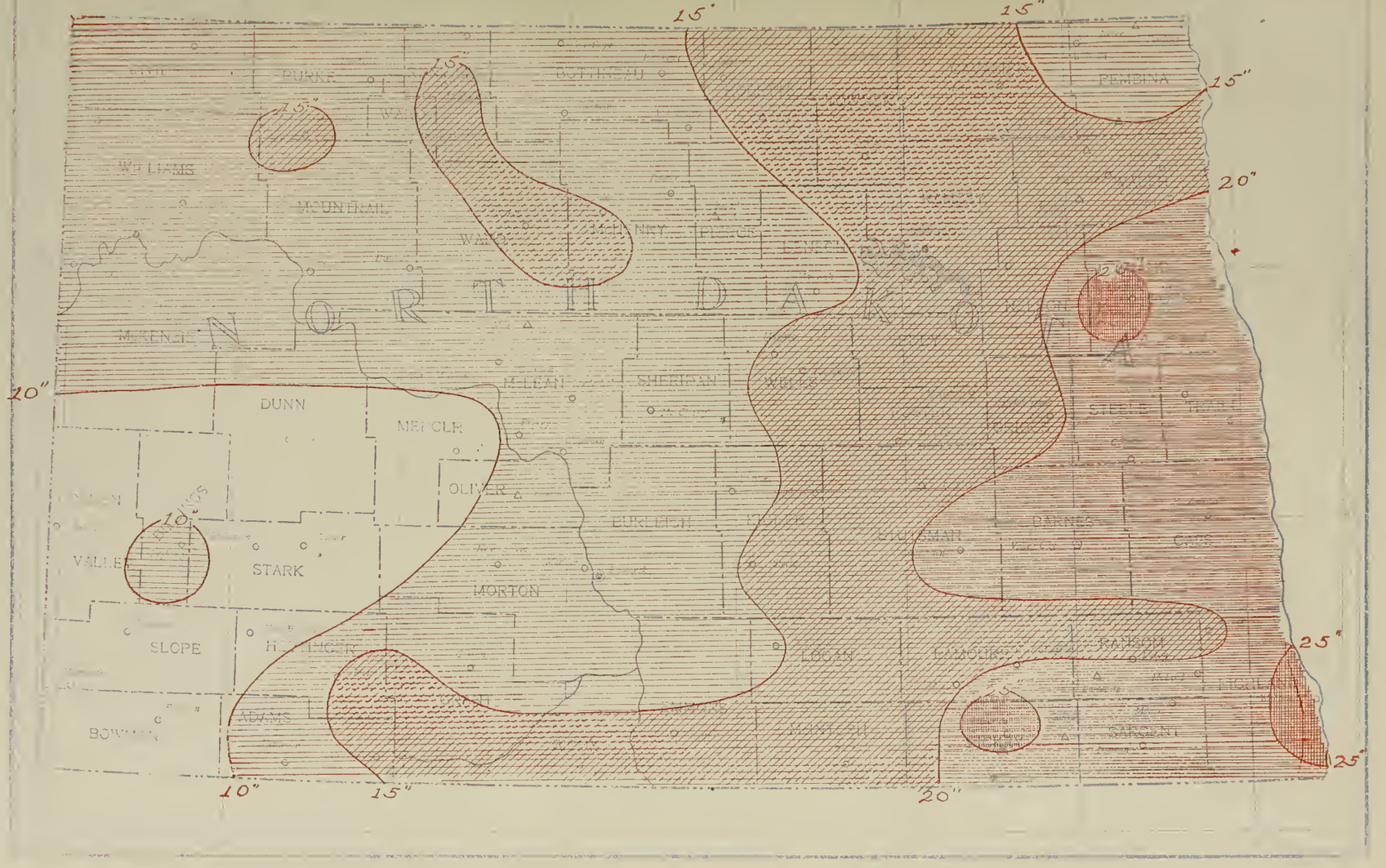
[a] indicates 1 day missing, [b] 2 days missing, etc.

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ●Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). △Display or distribution of forecasts.

TOTAL PRECIPITATION FOR THE YEAR 1919.


15"
15"
15"
20"
20"
25"
25"
10"
15"
20"
10"
PERKINS
PERKINS
PERKINS

Cooperative Observers.

Station.	Observer.	Station.	Observer.	Station.	Observer.	Station.	Observer.
Amenia	E. T. Carley.	Energy	N. W. Solenberger.	Linton	Fr. Sailer.	Parshall	J. A. Johnson.
Arnegard	C. A. Benson.	Epping	M. E. Uggen.	Lisbon	W. K. Adams.	Pembina	C. W. Shumaker.
Ashley	R. C. Miles.	Fessenden	G. T. Seymour.	McClusky	Edw. Tapley	Pettibone	A. O'Neill.
Beach	H. Yunker.	Forman	Hugo T. Denk.	McHenry	P. E. Trudeau.	Power	J. A. Power.
Berthold Agency	Chas. L. Hall.	Fryburg	Verne King	McKinney	N. P. Swenson.	Powers Lake	Chas. Frank.
Bierman	E. F. Biermann.	Fullerton	F. O. Alin.	McLeod	J. G Carlson.	Sanish	E. H. Senechal.
Bottineau	H. F. Steiumeier.	Garrison	G. L. Robinson.	Maddock	A. T. Felland.	Selfridge	H. S. Solenberger.
Bowbells	G. H. Phelps.	Grafton	A. R. T. Wylie.	Mandan	N. G. P. F. Sta.	Searing	T. C. Taylor.
Bowman	M. W. Madsen.	Grand Forks	H. E. Simpson.	Manfred	P. B. Anderson.	Sherwood	B. Lancaster.
Buford	P. Elmore.	Grand Rapids	G. E. Pooley.	Marmarth	S. P. Grane.	Steele	H. S. Wood.
Cando	J. M. Russell.	Granville	W. A. Christianson.	Mayville	W. C. Gould.	Taylor	H. Leutz.
Carson	J. W. Evens.	Hannah	J. Moffatt.	Melville	J. P. Kidder.	Towner	Belle Bagley.
Colgate	James McCann.	Hansboro	C. E. Blackorby.	Milnor	Hj. Edman.	Turtle Lake	A. T. Anderson.
Cooperstown	S. Friswold.	Hettinger	U. J. Downey.	Minot	W. I. Faris.	Valley City	C. F. Schroeder.
Crosby	John Jensen.	Hillsboro	F. E. Mayall.	Minto	C. M. Evans.	Wahpeton	G. C. Moreheart.
Dickinson	J. C. Thysell.	Howard	C. P. Amsbaugh.	Mott	O. H. Opland.	Walhalla	Ivan Lee.
Donnybrook	E. H. Wolsey.	Jamestown	S. Calvelage.	Napoleon	C. J. Hoof.	Washburn	A. Guenther.
Dunn Center	W. F. Moede.	Lakota	J. H. Beaty.	New England	W. C. McKenzie.	Westhope	W. A. Meddaugh.
Dunseith	J. G. Lamont.	Lamoine	Emma V. Virgin.	New Salem	J. Christiansen.	Willow City	M. A. Ostby.
Eckman	J. Nussbaum.	Langdon	R. T. Burke.	Orange	J. E. Lowries.	Zap	E. T. Montgomery.
Edgeley	O. A. Thompson.	Larimore	R. A Gray.	Park River	C. B. Wright.		

Forecast Displaymen and Distributors.

Station.	Distributor.	Station.	Distributor.	Station.	Distributor.	Station.	Distributor.
Center ‖	W. T. Maher.	Fullerton ‖	F. O. Alin.	Mandan ‖	N. D. Ind. Tel. Co.	University ‖	H. E. Simpson.
Crystal* ‖	Postmaster.	Grafton* ‖	Postmaster.	Marion ‖	Postmaster.	Valley City §‖	J. E. Switzer.
Eckman*	Postmaster.	Grand Forks §	R. B. Griffith Co.	Minot† ‖	Postmaster.	Wahpeton ‖	Postmaster.
Edgeley† ‖	Postmaster.	Langdon ‖	R. T. Burke.	Neche* ‖	Postmaster.	Bismarck† ‖	U. S. Weather Bur.
Edinburg ‖	Postmaster.	Lankin* ‖	Postmaster.	Northwood ‖ §	G. P. Johnson.	Devils Lake† ‖	U. S. Weather Bur.
Englevale* ‖	Postmaster.	Lidgerwood § ‖	M. O. Movius.	Oakes† ‖	Postmaster.	Ellendale† ‖	U. S. Weather Bur.
Fargo ‖	Postmaster.	Lisbon ‖§	Postmaster.	Rugby ‖	Postmaster.	Williston† ‖	U. S. Weather Bur.

† Card distributing center. * Rural free delivery center. ‖ By telephone. § By flags.

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